DOCUMENT RESUME

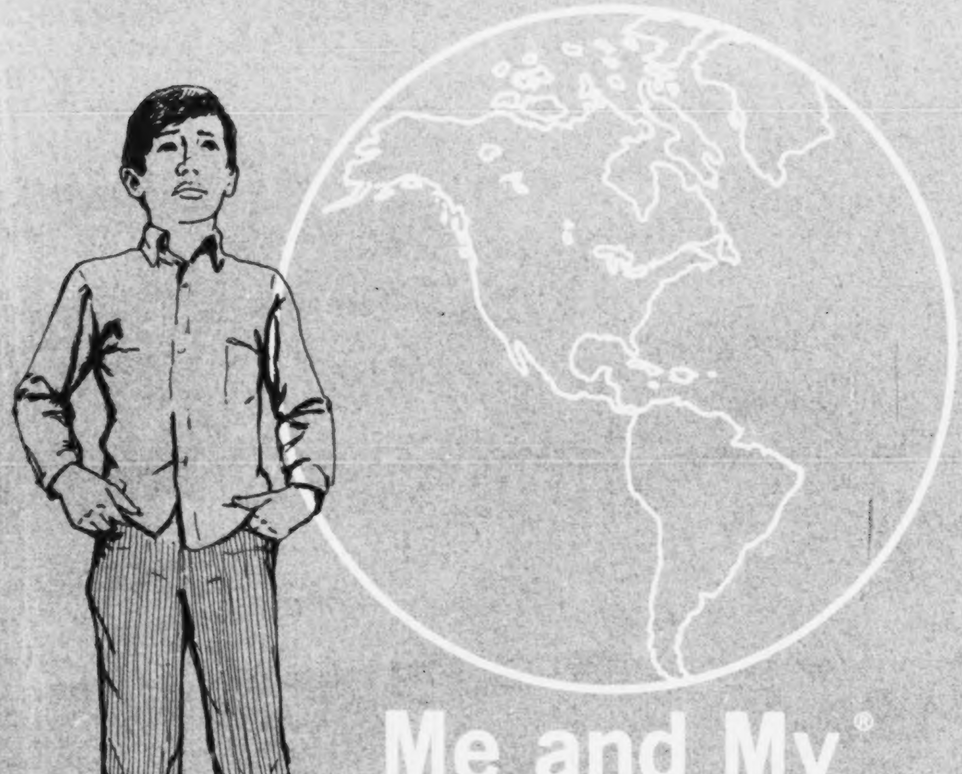
ED 071 264	EC 050 872

TITLE	Me and My Environment. Unit I: Exploring My Environment.
INSTITUTION	Biological Sciences Curriculum Study, Boulder, Colo.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE	72
NOTE	327p.
EDRS PRICE	MF-$0.65 HC-$13.16
DESCRIPTORS	Biology; *Class Activities; *Curriculum Guides; *Educable Mentally Handicapped; *Environmental Influences; *Exceptional Child Education; Guidelines; Inquiry Training; Instructional Materials; Lesson Plans; Mentally Handicapped; Problem Solving; Student Behavior

ABSTRACT

Presented is the experimental edition of Unit I: Exploring My Environment, which consists of 29 life science curriculum activities intended for the 13-to-15-year-old educable mentally retarded child. The curriculum guide is being used in the final field test prior to revision. Stressed throughout the program are ecological themes, inquiry skills, problem solving skills, environmental elements, and applicational behaviors and attitudes. Seven to 12 activities for each of the three core study areas within Unit I are given of which the following are examples: making a pond, sniffing around, forming categories, and reading a thermometer. Activities are organized into materials, teaching strategies, and anticipated student behaviors. The three cores are sensing the environment, investigating the environment, and landmarks in the environment. The ecological theme stressed is the interrelationships of environmental components. Inquiry skills seen to be developed are observing and identifying. Problem solving skills emphasized are experimenting and knowing what the problem is and what to do about it. Environmental elements considered are space and shelter. Behavioral objectives include the development in the student of a sense of self-identity and an attitude of inquiry. (See EC 050 871, and EC 050 873 through EC 050 875 for related curriculum guides.) (DB)

ED 077 204



Me and My® Environment

Experimental Edition 1972 - 1973

Biological S

Life

A Speci

Unit I :
Explorin

Biological Sciences Curriculum Study

Life Sciences:
A Special Education Program

Unit I:
Exploring My Environment

Me and my Environment

[illegible]
Biological Sciences
Curriculum Study
[illegible]

Copyright (c) 1972 by the Biological Sciences Curriculum
For permissions and other rights under this copyright, pl
Sciences Curriculum Study, P. O. Box 930, Boulder, Colora

This work was developed under a grant with the U. S. Offi
of Health, Education and Welfare. However, the opinions
necessarily reflect the position or policy of that Agency
ment should be inferred.

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

BSCS

ological Sciences Curriculum Study. All rights reserved.
ghts under this copyright, please write the Biological
. O. Box 930, Boulder, Colorado 80302.

r a grant with the U. S. Office of Education, Department
fare. However, the opinions expressed herein do not
tion or policy of that Agency, and no official endorse-

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
OFFICE OF EDUCATION
DOCUMENT HAS BEEN REPRO
ED EXACTLY AS RECEIVED FROM
PERSON OR ORGANIZATION ORIG
TING IT POINTS OF VIEW OR OPIN
S STATED DO NOT NECESSARILY
RESENT OFFICIAL OFFICE OF EDU
ON POSITION OR POLICY

Me and my Environment

CONTENTS Unit I Exploring My Environment

BSCS Staff..iii
Writers..iv
Evaluators..v
Introduction....................................vii
Floating Activity. Meet The Camera.............xxvii
Aims For Me And My Environment....................1
Unit I Goal.......................................1
Objectives of Core A
SENSING MY ENVIRONMENT............................1
Core A Rationale..................................2
Background Information For The Teacher............2
Planning Guide, Core A...........................4A
Activity 1-1. An Animal In Class..................5
Activity 1-2. A Pond In The Classroom............11
Activity 1-3. Taking A Closer Look...............23
Activity 1-4. A Closer Look Outside..............33
Activity 1-5. Zoom In, Zoom Out..................39
Activity 1-6.
Activity 1-7.
Activity 1-8.
Activity 1-9.
Activity 1-10.
Activity 1-11.
Activity 1-12.
Objectives of C
INVEST
Core B Rational
Background Info
Planning Guide,
Activity 1-13.
Activity 1-14.
Activity 1-15.
Activity 1-16.

S Unit I Exploring My Environment

BSCS

....iii
.....iv
......v
....vii
..xxvii
......1
......1
......1
......2
......2
......4A
......5
.....11
.....23
.....33
.....39

Activity 1-6. Sounds From My Environment....................47
Activity 1-7. Environmental Orchestra......................55
Activity 1-8. Sounds Around Us.............................63
Activity 1-9. Sniffing Around..............................69
Activity 1-10. A Strange Feeling...........................77
Activity 1-11. Putting Yourself In The Picture...
A Review Of Success................83
Activity 1-12. An Animal Environment.......................87
Objectives of Core B
INVESTIGATING MY ENVIRONMENT........................95
Core B Rationale...96
Background Information For The Teacher.....................96
Planning Guide, Core B.....................................98A
Activity 1-13. Introduction To Sorting.....................99
Activity 1-14. Sorting Things In Our Environment...........107
Activity 1-15. Categorizing In Terms Of Living-Nonliving...113
Activity 1-16. Forming Categories..........................123

Activity 1-17. Review Of Success..........................129

Activity 1-18. Temperatures Affect All Living Things......131

Activity 1-19. Reading A Thermometer......................137

Activity 1-20. Temperatures In My Outside Environment.....147

Activity 1-21. Measurement In My Environment..............155

Activity 1-22. Review Of Success..........................165

Objectives of Core C
LANDMARKS IN MY ENVIRONMENT.......................171

Core C Rationale..172

Background Information For The Teacher....................172

Planning Guide, C

Activity 1-23. E

Activity 1-24. L

Activity 1-25. H

Activity 1-26. A

Activity 1-27. T

Activity 1-28. F

Activity 1-29. R

NTENTS Unit I Exploring My Environment

BSCS

..........129
ngs......131
..........137
ment.....147
..........155
..........165
..........171
..........172
..........172

Planning Guide, Core C..................................174A
Activity 1-23. Establishing Environmental Landmarks.........175
Activity 1-24. Landmarks And Habitats In My Environment.....185
Activity 1-25. Homes And Habitats In My World...............191
Activity 1-26. A Recycled Spaceship.........................195
Activity 1-27. To The Moon In Our Room......................201
Activity 1-28. Far Out Habitats.............................211
Activity 1-29. Review Of Success............................217

BSCS STAFF

WILLIAM V. MAYER
Director

MANERT H. KENNEDY
Associate Director

GEORGE M. CLARK
Assistant Director

KEITH L. BUMSTED
Business Manager

STAFF CONSULTANTS

JAY E. ANDERSON

DOROTHY S. CURTIS

JAMES S. ECKENROD

ROY O. GROMME

FAITH M. HICKMAN

JILL R. NAGRODSKY

FREDERICK A. RASMUSSEN

JAMES T. ROBINSON

NORRIS M. ROSS, JR.

HAROLD A. RUPERT, JR.

JOE M. STEELE

RICHARD R. TOLMAN

ILLUSTRATION STAFF

ROBERT F. WILSON
Art Director

ESTER A. BAUTISTA

JUDITH A. BUCHER

SUE E. HARTLEY

CAROLE L. JENCKS

GLORIA M. KROEGER

ARNE L. LUDVIGSEN

ANN L. MANNERING

WAYNE E. MEINEKE

MICHAEL J. O'NEILL

LAWRENCE A. STRAND

JOHN B. THORNTON

ROY M. UDO

BSCS STAFF

BSCS

ILLUSTRATION STAFF

ROBERT F. WILSON
Art Director

ESTER A. BAUTISTA

JUDITH A. BUCHER

SUE E. HARTLEY

CAROLE L. JENCKS

GLORIA M. KROEGER

ARNE L. LUDVIGSEN

ANN L. MANNERING

WAYNE E. MEINEKE

MICHAEL J. O'NEILL

LAWRENCE A. STRAND

JOHN B. THORNTON

ROY M. UDO

SECRETARIAL STAFF

KATHY CAMPASSI

EUNICE COMBS

MELISSA COONEY

ROSALIND FRASCONA

VETA HARTMAN

SHIRLEY RUPP

DONNA SANERIB

MEREDITH SHIELDS

KAY SIEBEN

LYNN ZARINA

LIBRARIAN

JUDITH SCHRAG

Me and my Environment

Writers and Committees, 1971-73 Experimental

1971 Summer Writing Team

THOMAS E. ALLEN
Florida State University
Tallahassee, Florida

JOSEPHINE A. BENNETT
Whitehaven High School
South Memphis, Tennessee

DONALD R. DAUGS
University of Victoria
Victoria, B. C., Canada

FLORENCE B. HAAG
Ida Patterson School
Eugene, Oregon

CREGG INGRAM
Southwest Educational
Development Center
Cedar City, Utah

JO ANN JEPPSON
Granite Park Jr. High School
Salt Lake City, Utah

KEITH MORRILL
South Dakota State University
Brookings, South Dakota

NORRIS M. ROSS, JR.
Nicolet High School
Milwaukee, Wisconsin

WILLIAM G. VOLANTE
Turkey Hill Middle School
Lunenburg, Massachusetts

MARTHA M. WILLIAMS
Kepner Jr. High School
Denver, Colorado

Project Advisory Committee

WILLIAM R. REID, Chairman
University of Florida
Gainesville, Florida

ROBERT L. ERDMAN
University of Utah
Salt Lake City, Utah

WARREN HEISS
Montclair State College
Montclair, New Jersey

JERRY H. HUBSCHMAN
Wright State University
Dayton, Ohio

EDWARD L. MEYEN
University of Missouri
Columbia, Missouri

WALTER AUFFENBER
Florida State M
Gainesville, Fl

WILLIAM EDWARDS
Laramie County
Cheyenne, Wyomi

WREN GREEN
University of
Vancouver, B.

FLORENCE HAAG
Ida Patterson S
Eugene, Oregon

JERRY HUBSCHMAN
Wright State Un
Dayton, Ohio

CANDACE LIGHT
Hodgkins Jr. Hi
Denver, Colorad

KEITH MORRILL
South Dakota St
Brookings, Sout

ALICE OGURA
Balarat Environ
Denver, Colorad

s and Committees, 1971-73 Experimental Materials

BSCS

NTE
iddle School
ssachusetts

AMS
gh School
ado

y Committee

, Chairman
Florida
lorida

N
Utah
y, Utah

te College
w Jersey

MAN
niversity

Missouri
souri

1972 Summer Writing Team

WALTER AUFFENBERG
Florida State Museum
Gainesville, Florida

WILLIAM EDWARDS
Laramie County Community College
Cheyenne, Wyoming

WREN GREEN
University of British Columbia
Vancouver, B. C., Canada

FLORENCE HAAG
Ida Patterson School
Eugene, Oregon

JERRY HUBSCHMAN
Wright State University
Dayton, Ohio

CANDACE LIGHT
Hodgkins Jr. High School
Denver, Colorado

KEITH MORRILL
South Dakota State University
Brookings, South Dakota

ALICE OGURA
Balarat Environmental Center
Denver, Colorado

JOAN PETERS
Boulder, Colorado

NORRIS M. ROSS, JR.
Nicolet High School
Milwaukee Wisconsin

BSCS Project Staff

JAY E. ANDERSON, 1971-72
GEORGE M. CLARK, 1971-73
DOROTHY S. CURTIS, 1972-73
ROY O. GROMME, 1971-73
FAITH M. HICKMAN, 1971-72
H. WAYNE JOHNSON, 1972
MANERT H. KENNEDY, 1971-73
JILL R. NAGRODSKY, 1972-73
NORRIS M. ROSS, JR., 1972-73
HAROLD A. RUPERT, 1971-73
JOE M. STEELE, 1971-73
RICHARD R. TOLMAN, 1971-73

Me and My Environment Support Staff

EILEEN BURKE, 1972
MELISSA COONEY, 1971-73
JOANNE KLEBBA, 1972
LYNN ZARINA, 1971-73

Test Teachers, 1972-74 Experimental Edition, Field

JUNE ALLBRANDT
Lake Junior High School
Denver, Colorado

ALICE BIGHAM
Aycock Junior High School
Raleigh, North Carolina

CECILIA FARMER
R. O. Gibson Jr. High School
Las Vegas, Nevada

SHELDON FINE
Intermediate School 148
Bronx, New York

CARL HOFF
Lafayette Middle School
Lafayette, Colorado

ALMA JENKINS
Skiles Middle School
Evanston, Illinois

MOLLIE KITE
The Pathfinder School
Bethel Park, Pennsylvania

VITO LOMBARDO
F. D. R. Middle School
Bristol, Pennsylvania

DOUGLAS McCULLOUGH
L. Y. Cairns School
Edmonton, Alberta, Canada

EDWARD McNULTY
Eastwood School
Kirkville, New York

JOAN McNULTY
Central Junior High School
DeWitt, Iowa

EVA REEDY
Benjamin Franklin Jr. High School
San Francisco, California

EDWARD SHERMAN
Intermediate School 131
Bronx, New York

HOWARD SHIPLEY
Judsons Hill School
Morristown, Tennessee

Evaluators

BSCS

C-74 Experimental Edition, Field Test II

OMBARDO
. R. Middle School
tol, Pennsylvania

S McCULLOUGH
. Cairns School
nton, Alberta, Canada

McNULTY
wood School
ville, New York

cNULTY
ral Junior High School
tt, Iowa

EDY
amin Franklin Jr. High School
Francisco, California

SHERMAN
rmediate School 131
x, New York

SHIPLEY
ons Hill School
istown, Tennessee

EDITH SHIPMAN
Pacific Prevocational School
Seattle, Washington

BETTY SILVERTHORN
Selah Junior High School
Selah, Washington

JOSEPH SOUSA, JR.
Harrington Way Jr. High School
Worcester, Massachusetts

HILDA THACH
Pierson Junior High School
Kansas City, Kansas

SUSAN THOMASGARD
Merrill Junior High School
Denver, Colorado

MARY WHITE
Shawnee Junior High School
Louisville, Kentucky

SUE WRIGHT
West Locust Street School
Wilmington, Ohio

Evaluators

Evaluation Consultants

PHILLIP BASHOOK
University of Illinois
Medical Center
Chicago, Illinois

ROBERT ENNIS
University of Illinois
Urbana, Illinois

JAMES J. GALLAGHER
University of North Carolina
Chapel Hill, North Carolina

GENE V. GLASS
University of Colorado
Boulder, Colorado

ERNEST R. HOUSE
University of Illinois
Urbana, Illinois

JAMES A. JONES
Syracuse University
Syracuse, New York

WILLARD JONES
Rocky Mountain Special Education
Instructional Materials Center
Greeley, Colorado

OLIVER KOLSTOE
University of Northern Colorado
Greeley, Colorado

MARLYS MITCHELL
University of North Carolina
Chapel Hill, North Carolina

DOUGLAS SJOGREN
Colorado State University
Fort Collins, Colorado

Test

LARRY AL
Sentine
Missou

VINCENT A
Goleta
Goleta,

DANNETTE
Nevin
Boulder

JO ANN JE
Granite
Salt La

STEVE JOH
Central
Missou

CANDACE L
Hodgki
Denver,

CECIL LIN
Rooseve
Eugene,

RICHARD M
Shadowl
Arlingt

BSCS

Evaluators

rsity
York

Special Education
Materials Center
rado

Northern Colorado
rado

North Carolina
orth Carolina

University
Colorado

Test Teachers, 1971-73 Experimental Edition, Field Test I

LARRY ALLEN
Sentinel High School
Missoula, Montana

VINCENT ALVINO
Goleta Valley Jr. High
Goleta, California

DANNETTE BOYLE
Nevin Platte Jr. High
Boulder, Colorado

JO ANN JEPPSON (1971-72)
Granite Park Jr. High
Salt Lake City, Utah

STEVE JOHNSON
Central School
Missoula, Montana

CANDACE LIGHT
Hodgkins Jr. High
Denver, Colorado

CECIL LINDER
Roosevelt Jr. High
Eugene, Oregon

RICHARD MATHIS
Shadowlawn Learning Center
Arlington, Tennessee

EDWARD McCANN
Mon Valley School
West Mifflin, Pennsylvania

WALLIS MOODY
Cole Jr. High
Denver, Colorado

MICHAEL RAE (1972-73)
Granite Park Jr. High
Salt Lake City, Utah

THOMAS RODGERS
Frank F. Garside Jr. High
Las Vegas, Nevada

MARY D. SMITH
James E. Shepard Jr. High
Durham, North Carolina

FRED STRICKLAND
Nathan Weeks Jr. High
Des Moines, Iowa

CARLA WATTS (1972-73)
UNC Laboratory School
Greeley, Colorado

AUGUST ZEITLOW (1971-72)
UNC Laboratory School
Greeley, Colorado

INTRODUCTION

The project to develop a life science curriculum for the educable mentally handicapped (EMH) was originally funded in the summer of 1969 by the Division of Research, Bureau of Education for the Handicapped, United States Office of Education. The project is charged with writing, field testing, evaluating, and disseminating materials dealing with topics in life sciences for the EMH population in our schools.

ME NOW, the BSCS model life science program for educable mentally handicapped youngsters in the 11- through 13-year age-group, has been released and is available from Hubbard Scientific Company of Northbrook, Illinois.

On the basis of the success of the ME NOW program, and in anticipation of meeting further student and instructor needs, the Bureau of Education for the Handicapped has provided the BSCS with a three-year continuation grant to develop model materials for 13- to 15-year-old EMH students. Recognition by the educational community of the need for special emphasis on matters of ecological concern led the BSCS staff to decide early in the project that a portion of the materials
mental studies. The tim
which is entitled ME AND

In May 1971, a planning
the development of ME AN
by the five members of t
field of special educati
writing team consisting
biology teachers; and th
guidelines covering area
target population of chi
and the needs of these c
studies. A multidimensi
cognitive and affective
and needs of the childre
ing the conference, the
and objective outline fo
the existing literature
needs of handicapped adu
of those needs might be

Summer, 1971 - Initial writing conference

1971-72 academic year - Initial testing

Summer, 1972 - Revision

1972-73 academic year - Large-scale fie

Summer, 1973 - Revision

1973-74 academic year - Conclusion

INTRODUCTION

BSCS

the educable
he summer of
n for the
project is
disseminating
he EMH popula-

able mentally
e-group, has
c Company of

nd in antici-
ds, the Bureau
CS with a
ials for 13-
cational
s of ecological
oject that a

portion of the materials for EMH students should focus on environmental studies. The time line for developing this new curriculum, which is entitled ME AND MY ENVIRONMENT, is shown below.

In May 1971, a planning conference was held to prepare guidelines for the development of ME AND MY ENVIRONMENT. The conference was attended by the five members of the advisory committee, four of whom are in the field of special education and the fifth is in biology; the project writing team consisting of five special education teachers and five biology teachers; and the BSCS project staff. Conferees developed guidelines covering areas of environmental concern and utility for the target population of children, the characteristics of this population, and the needs of these children that might be met through environmental studies. A multidimensional model incorporating the science content, cognitive and affective behaviors, ecological themes, contextual focus, and needs of the children resulted from the planning conference. Following the conference, the BSCS project staff prepared a proposed content and objective outline for the curriculum. A thorough study was made of the existing literature covering the physical, social, and psychological needs of handicapped adults; the staff then attempted to identify which of those needs might be met by ME AND MY ENVIRONMENT.

Summer, 1971 - Initial writing conference

1971-72 academic year - Initial testing

Summer, 1972 - Revision

1972-73 academic year - Large-scale field test

Summer, 1973 - Revision

1973-74 academic year - Conclusion of field test

Me and my
Environment

THE ROLE OF THE TEACHER IN THIS EXPERIMENTAL EDITION

This curriculum has been written by teachers; it will be tested and modified by teachers. BSCS enthusiastic teachers for this development, testing, and modification. Ten of these teachers se more were selected as experimental teachers to provide the best possible initial field test of t feedback for the revision depends heavily upon the resourcefulness of these teachers. This mean including:

1. Implementing the strategies and activities exactly as they have been written. Only when the curriculum as prescribed are analyzed can its strengths and weaknesses be revealed.

2. Developing a feel for the inquiry strategy, flow of activities, and ultimate student behavic this understanding of the rationale of this program, the test teachers must suggest extensic invent yet others as needed that would enable their students to achieve the objectives when

3. Providing timely, accurate, and detailed feedback specifying strengths and weaknesses, modif activity.

4. Contributing to the actual writing of the curriculum in a few of the open-ended situations. at spots where we have given you the opportunity to develop a portion of an activity in dept but it will enable us to identify potential writers among the group of test teachers.

The following outline will provide you with an overview of the major components of the program:

	Ecological Themes	Inquiry Skills	Problem Solving Skills
UNIT I. EXPLORING MY ENVIRONMENT	Interrelationships Of Environmental Components	Observing	Experimenting
Sensing My Environment Investigating My Environment Landmarks In My Environment		Identifying	Knowing What The Problem Is And What To Do To Solve It

BSCS

ested and modified by teachers. BSCS has attempted to find highly skilled, flexible, and
dification. Ten of these teachers served as writers to create the materials. Fourteen
best possible initial field test of the curriculum. The success of this test in providing
fulness of these teachers. This means that the test teachers have several responsibilities,

hey have been written. Only when the combined results of all teachers' use of this
and weaknesses be revealed.

ivities, and ultimate student behaviors around which the curriculum is organized. Through
e test teachers must suggest extensions of some activities, modifications of others, and
dents to achieve the objectives when the specified strategies are inadequate.

fying strengths and weaknesses, modifications, alternatives, and student responses for each

a few of the open-ended situations. We purposely have provided blank pages in the manual
elop a portion of an activity in depth. Not only will this give ideas to the future writers,
ng the group of test teachers.

the major components of the program:

uiry Skills	Problem Solving Skills	Environmental Elements	Applicational Behaviors And Attitudes
erving	Experimenting	Space	The student develops:
			--a sense of self-identity.
ntifying	Knowing What The Problem Is And What To Do To Solve It		--a success syndrome.
		Shelter	--an attitude of inquiry.

Me and my Environment

	Ecological Themes	Inquiry Skills	Problem Solving Skills
UNIT II. ME AS A HABITAT	Diversity And Pattern	Associating	Recording Data
Microbes And Me Disease In People Habitats Environmental Choices And Chances (Drugs, Alcohol, Smoking)		Describing	Discussion And Treatment Of Group Data
UNIT III. ENERGY RELATIONSHIPS IN MY ENVIRONMENT	Complementarity Of Organisms And Environment	Comparing	Organizing Data
		Translating	Explaining, Defending Answering Why Questions
Introduction To Energy Energy In Food Energy Flow Through Food Chains And Webs Food Making In Plants	Flow Of Energy	Inferring	Asking Questions
			Identifying Variables
UNIT IV. TRANSFER AND CYCLING OF MATERIALS IN MY ENVIRONMENT		Applying	Identifying Controls
	Cyclic Nature Of Processes	Guessing	Interpreting Results
Energy And Material Transfer Decomposers In My Environment Garbage And My Environment			Drawing Conclusions

BSCS

iry Skills	Problem Solving Skills	Environmental Elements	Applicational Behaviors And Attitudes
ciating	Recording Data		--skills in functional, receptive, and expressive communication about his environment.
ribing	Discussion And Treatment Of Group Data	Living Things (Plants) (Animals) (Microorganisms)	--skills in recognizing environmental landmarks and utilizing these for orientation and mobility.
aring	Organizing Data		--a recognition of his social dependence on others and his biological dependence on the environment.
slating	Explaining, Defending, Answering Why Questions		
rring	Asking Questions	Energy (Food Chains)	--an understanding of the interrelationships between environmental components.
	Identifying Variables		--skills in employing systematic problem-solving techniques to persistent problems of daily life.
ying	Identifying Controls	Air	
			--skills in hygienic personal body care.
sing	Interpreting Results		
	Drawing Conclusions		--skills in the selection, preparation, and storage of food.

Me and my Environment

	Ecological Themes	Inquiry Skills	Problem Solving Skills
UNIT V. POPULATIONS AND SOCIETIES Behavior Within Different Social Levels Population Size And Complexity Behavior And Population Density Population Size And Resource Use Population Growth	Finiteness Of Resources Population Dynamics Ecological Trade-Off	Speculating Predicting	Recognizing Problems And Formulating Questions Designing Experiments

SOME GENERAL OBJECTIVES

1. To help the mentally handicapped child develop interests, skills, and positive attitudes through experiences with scientific -- especially biological -- concepts.

2. To provide the mentally handicapped child with challenging intellectual activity at a level commensurate with his ability to respond effectively.

3. To aid the
heightened
measure of
for his env

4. To contribu
social matu

BSCS

Skills	Problem Solving Skills	Environmental Elements	Applicational Behaviors And Attitudes
ing	Recognizing Problems And Formulating Questions	Water	--an attitude of self-concern, as well as social concern, related to his environment.
ng	Designing Experiments	Man	--skills in making independent decisions that relate to the quality of his environment.
			--a feeling of competence in dealing with his environment.
			--a basis for aesthetic appreciation.
			--skill that may lead to a hobby or avocation over a lifetime.
			--an attitude about and concern for overcrowding and its social and personal implications.

kills,
--

3. To aid the child in establishing functional modes of living through heightened observation, a well-developed curiosity, an increased measure of self-confidence, and a sense of responsibility to and for his environment.

4. To contribute to the development in the child of a higher level of social maturity and emotional stability that can lead to increased

vocational proficiency, realistic self-concept, creative self-expression, and more effective assimilation into the community.

5. To develop in the child a knowledge of himself in relation to his environment, along with a tendency to apply this knowledge to the tasks of everyday living.

6. To contribute to increased knowledge about the learning characteristics and limitations of the educable mentally handicapped pupil, and about effective strategies for instruction.

BASIC ASSUMPTIONS UNDERLYING THE DESIGN FOR THE CURRICULUM MATERIALS

In the initial discussions with the special education community, some basic assumptions for the development of the life science materials were identified. These were revised somewhat, based on the development and testing of ME NOW, to form the underlying assumptions for the development of ME AND MY ENVIRONMENT.

1. Ideas must be developed with a minimum of reading on the part of the student.

2. Vocabulary, where possible, should involve functional rather than technical language, although technical names are taught when these may be useful to the student.

3. Entry points should be concerned with concrete, tangible "things," rather than with abstract, intangible ideas or concepts.

4. The classroom environment and the materials should not be cluttered with distractors; however, a variety of perceptual modes and instructional media should be used (e.g., sight, touch, smell, etc.).

5. Activities sh
on or reinfor

6. Learning, for
redundancy, a
instructional
student-watch

7. An activity m
desired behav

8. EMH children
oriented inst

9. The curriculu
experience in
their environ

10. Most teachers
specific dire
science conce

11. The teachers
part, are not
specific with

12. The materials
differences a
population.

13. To achieve the
attempt to cre
is, the amount
is probably a
be established

5. Activities should be developed in small, discrete units that build on or reinforce a concept or skill.

6. Learning, for the EMH student, requires slower pacing, greater redundancy, and time for participation by each student. The instructional materials should be student-doing rather than student-watching.

7. An activity must involve the student in ways of applying the desired behavior; transfer cannot be assumed.

8. EMH children need and can respond effectively to an activity-oriented instructional approach.

9. The curriculum should be designed to provide students with an experience in science as inquiry, through the exploration of their environment.

10. Most teachers of the Educable Mentally Handicapped will need specific directions in using inquiry strategies for teaching science concepts.

11. The teachers of the Educable Mentally Handicapped, for the most part, are not science-oriented; therefore, the materials should be specific with regard to science techniques.

12. The materials and methods must allow for attention to individual differences and to specific learning characteristics of the population.

13. To achieve the objectives, designers of the materials should attempt to create a balance between detail and motivation; that is, the amount of minute and abstract detail that can be learned is probably a function of the interest and motivation that can be established to deal with it.

MAJOR AIMS FOR ME AND MY ENVIRONMENT, A JUNIOR HIGH EMH SCIENCE CURRICULUM

The curriculum includes instruction related to the personal well-being, self-worth, confidence, and successful coping of each person to meet persistent daily life problems. The major aims are:

1. Development in each child of a sense of identity as a person who has some degree of control over and can act on his environment. This will lead to a degree of self-determination based on a rational coping with situations rather on a passive compliance or an impulsive response to problems.

2. Development in each child of a success syndrome. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility - almost obligation - to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. As a group, the students should help each individual fit what he has done into a pattern of accomplishment.

The curriculum is intended to be intellectually stimulating, and exploratory for each student, and to induce him to become actively involved. It should encourage the following outcome:

3. Development in each child of an interest that could become a hobby or avocation over a lifetime (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.

The curriculum is
some specific cont
objectives are:

4. Development in
with other liv
regard and car
a group, becau

5. Development in
conditions tha
environment an

These are the five
for teachers and g
A junior high stud
materials expresse
want these kids to
to bring these kid
make them feel tha
will try a little
it works...Another
down -- try it aga
just the tone of v
staying in this cl
don't, (when their
today?'"

Since the original
MY ENVIRONMENT, ei
encompass the majo
that the curriculu
student population
understanding of w

The curriculum is organized around eight ecological themes. There are some specific content objectives related to these. The ultimate objectives are:

4. Development in each child of a sense of relationship and empathy with other living things. It is hoped this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.

5. Development in each child of an understanding of environmental conditions that will lead to a sense of responsibility for the environment and actions that protect or improve it.

These are the five overriding aims that should serve as reference points for teachers and guide much of what they plan and do in the classroom. A junior high student in one of the first classes that tested these materials expressed what is needed this way: "I just feel that if we want these kids to improve, and that's the whole idea of it, you have to bring these kids a certain amount of happiness. You have got to make them feel that they are really wanted. If they are wanted, they will try a little harder. That sounds kind of childish, I suppose, but it works...Another thing...always inspire: 'Come on, put your best foot down -- try it again.' You know, things like that. I mean, to me, just the tone of voice makes a difference to me about going out or staying in this class. I just feel that they don't want me -- And they don't, (when their tone says) 'Oh, Eddie! Why did he have to come today?'"

ECOLOGICAL THEMES

Since the original planning conference for the development of ME AND MY ENVIRONMENT, eight ecological themes have emerged which seem to encompass the major ideas and concepts (i.e., the science content) that the curriculum development team sees as appropriate for this student population. These themes are broad generalizations, some understanding of which appears to be a prerequisite for coping with one's own environment as well as with society's environmental problems. The themes are probably best thought of as unifying threads which run throughout the curriculum.

1. INTERRELATIONSHIPS OF ENVIRONMENTAL COMPONENTS.

> "When we try to pick out anything by itself, we find it hitched to everything else in the universe." -John Muir

Life is entirely dependent upon the things that the environment supplies: air, water, food, shelter, and subtle things such as a suitable temperature and humidity. Animals depend upon other animals or plants for food. Scavengers (carrion and detritus feeders) and decomposers (bacteria and fungi) obtain their nutrition from the remains of living organisms. Green plants depend upon sunlight, air, water, and minerals from their environment and form the base upon which all organisms are interconnected by food chains and complex food webs.

Organisms interact with each other, and with the environment, in a variety of ways in addition to the eater-eaten relationships of food chains or webs. Plants compete with each other for light, water, soil nutrients, and growing space. Animals compete for available food resources, space, and shelter. Other relationships include parasite-host and pathogen-host interactions.

The important consequence of this theme is that actions are not singular, nor do they have singular impact. Man's competitive interactions have far-reaching, often unknown consequences. For example, clearing land for raising agricultural crops destroys the habitat for plants and animals and disrupts certain food webs, while establishing suitable habitat for agricultural species. The resulting monocultures are often vulnerable to attack by pests because populations

of natural pr
competitive o
exacerbate th
predators, sc
Similarly, he
crops may des
applications
nontarget ben
large-scale,
actually decr
transport, an
air and water
resources upo
of a myriad p
terms of cons
ciate that li
simple action

2. DIVERSITY

There is grea
and topograph
communities o
are adapted t
there is dive
diversity. R
the functioni
within the bi

If one looks
of sizes, sha
of organisms
(producers) w

ental
ifying

it hitched to

ronment
uch as a
ther animals
eders) and
rom the
unlight, air,
ase upon
d complex

ment, in a
hips of
light,
te for
ationships

re not
titive
es. For
stroys the
webs, while
The resulting
ause populations

---

of natural predators have been removed. Attempts to control these competitive organisms through applications of pesticides may simply exacerbate the situation by killing nontarget organisms such as predators, scavengers, and decomposers which are actually beneficial. Similarly, herbicides used in control of weeds which are competing with crops may destroy habitats for natural predators, making additional applications of insecticides necessary; these in turn may kill more nontarget beneficial organisms. Numerous studies have shown that large-scale, indiscriminate use of pesticides may, in the long run, actually decrease agricultural productivity. In addition, manufacture, transport, and application of pesticides and fertilizers contribute to air and water pollution, thereby adding to the degradation of vital resources upon which all life depends. This is but one simple example of a myriad possibilities. If we expect students to start thinking in terms of consequences, it is imperative that they realize and appreciate that life depends upon interrelationships and that apparently simple actions may have far-reaching implications.

2. DIVERSITY AND PATTERN.

There is great diversity in the environment. Differences in climate and topography generate different environments made up of different communities of plants and animals. Plants and animals differ as they are adapted to perform different functions. Even within a species there is diversity. But, it is possible to find patterns within that diversity. Recognizing patterns helps one conceptualize and understand the functioning and interrelationships of all environmental elements within the biosphere.

If one looks at the organisms in any habitat, he discovers a variety of sizes, shapes, and colors. Further examination will reveal groups of organisms that are related in various ways, e.g. some produce food (producers) while others feed upon these producers (consumers). We find that the organisms are all related in a pattern forming a food web.

Diversity is thought to enhance the stability of a system, for it provides alternate channels of energy or materials flow if part of the system is lost or overburdened. For example, consider a single food chain: plants, grasshoppers, frogs, snakes. If one link in the chain is lost, e.g. the grasshoppers are wiped out by insecticides, all links beyond that one will also be lost if they have no alternative sources of food. In a complex food web, however, a link may be lost without destroying the system; links beyond the missing one may turn to another channel for food (e.g., the frogs may exploit another type of insect food resource). Thus, preserving diversity may be necessary in preserving the stability of the life support system of the biosphere. Man cannot exist alone.

It is often said that variety is the spice of life. Diversity makes the environment less monotonous and more interesting. This aesthetic component should receive emphasis in the curriculum.

3. COMPLEMENTARITY OF ORGANISMS AND ENVIRONMENT.

A complement is something that completes or fills out something. Complementarity in this context refers to the completion brought about by interrelationships which are dependent upon one another. A few examples should clarify the meaning of this theme.

Organisms use material things from the environment and, in turn recycle things to the environment which may be used by other organisms. Thus, the presence of organisms modifies the environment in various ways, some of which make the environment more suitable for other organisms. Plants use carbon dioxide and release more oxygen than they use. Consumer organisms (anima
Both the produc
these resources
is likewise dep

Without scaveng
tion of the rem
environment. P
essential eleme
have come to a

The presence of
and helps preve
the rate of eva
the atmosphere.
influence local

Plant successio
field, new road
hardy pioneer p
die, and decay,
by plants which
turn, cause fur
finally a relat
itself and that
communities are

4. FLOW OF ENER

"The biotic
circuits, ra
declining or
of stages in

g a food

for it
part
er a
f one
out by
f they
, however,
ond the
frogs
re-
ity
ist

ity
This
um.

ing.
ught
other.

urn recycle
sms. Thus,
s ways, some
sms. Plants
onsumer

organisms (animals, decomposers) use oxygen and release carbon dioxide. Both the producers and consumers are dependent upon the environment for these resources, and the balance of these materials in the environment is likewise dependent upon both groups of organisms.

Without scavengers and decomposers there would be a prodigious accumulation of the remains of once living organisms cluttering up the environment. Probably all of the available carbon, oxygen, and other essential elements would be tied up in these dead remains. Life would have come to a screeching halt a long time ago!

The presence of plants improves the water-holding capacity of a watershed and helps prevent erosion of the soil by wind and water. Plants reduce the rate of evaporation of soil water but at the same time release it to the atmosphere. Thus, plants play a vital role in the water cycle and influence local climates through the regulated flow.

Plant succession is a classic example of complementarity. An abandoned field, new roadside, or similar disturbed area is quickly invaded by hardy pioneer plants which we usually think of as weeds. As these grow, die, and decay, they modify the immediate environment and are replaced by plants which are better adapted to the new conditions. These, in turn, cause further modifications and are replaced by other populations; finally a relatively stable community exists that is able to replace itself and that is in dynamic equilibrium with the environment. Such communities are usually referred to as climax communities.

4. FLOW OF ENERGY

> "The biotic stream is capable of flowing in long or short circuits, rapidly or slowly, uniformly or in spurts, in declining or ascending volume. Ecology calls this sequence of stages in the transmission of energy a food chain, but it

can be more accurately envisioned as a pipe line---(which) leaks at every joint." -Aldo Leopold.

Energy may be defined as the capacity to do work. To cause movement requires energy; indeed, to do anything requires energy. Life depends upon this continuous flow which is initiated by a constant input of energy from the sun, its photosynthetic transformation from light to chemical energy by the producer organisms (green plants), its passage from organism to organism along various food chains, and its eventual loss as radiant heat to outer space. Each time that energy is converted or transformed at each step along the way, some of it is lost from the system and is no longer available to do useful work. This, in simple terms, is the second law of thermodynamics. Green plants are able to fix photosynthetically only a portion of the sun's energy that they intercept. In turn, some of the energy which they trap and store is used by the plants for such things as growth, reproduction, and the movement of materials. Thus, only a portion of that original stored energy is available to the organisms which eat the plants. These organisms likewise use energy in their various life processes so that only a small portion of the energy which they received from eating plants is available to their predators. As a consequence, only about one-tenth of the energy at any step in a food chain is available to the next level. An acre of agricultural land will provide enough food energy for about 1.5 persons for a year if planted in wheat, but will feed only 0.1 person if used to raise beef cattle!

Society's use of fossil fuels is simply a utilization of energy captured and stored over millions of years by green plants. As such, this source of energy is in finite supply and is a nonrenewable resource. Electricity generated by fossil-fuel burning plants can similarly be traced to the sun. Hydroelectric plants offer a limited

alternative sourc
of the limited nu
(which is simply
place on the sun
alternative sourc
all others, is go
once released, fl
space as heat. T
technology of the
exploitation of n
and problems. Ho
generated? Can t
generated? What
organisms?

It should be emph
present, of repla
In the forseeable
sun, through phot

5. CYCLIC NATURE

"All the rive

In contrast to en
living to nonlivi
supply, and if th
of resources and
dioxide-oxygen cy
essential mineral
Decomposer organi
releasing materia
so that they are
environment.

alternative source of electricity. This source is also finite because of the limited number of adequate sites. The use of nuclear reactors (which is simply a duplication on earth of the natural processes taking place on the sun to release energy) to generate electricity offers an alternative source of energy for society; this source, however, as are all others, is governed by the laws of thermodynamics. The energy, once released, flows through the system and is eventually lost to space as heat. This source is also finite, but refinements in the technology of the breeder reactor may make it a very large source. The exploitation of nuclear energy is fraught with unanswered questions and problems. How can we safely dispose of the radioactive wastes generated? Can the earth dissipate the huge amounts of waste heat generated? What effects will this heat have on climates, ecosystems, organisms?

It should be emphasized that nuclear energy offers little hope, at present, of replacing the sun as a life-supporting source of energy. In the forseeable future, man's only source of food energy will be the sun, through photosynthesis of green plants.

5. CYCLIC NATURE OF PROCESSES.

> "All the rivers run into the sea, yet the sea is not full."
> -King Solomon

In contrast to energy, materials (matter) are continuously cycled from living to nonliving systems. Materials necessary for life are in finite supply, and if they were not constantly cycled, life would simply run out of resources and cease. Some examples include the water cycle, the carbon dioxide-oxygen cycle, the nitrogen cycle, and the cycling of various essential minerals such as calcium, potassium, sulfur, and magnesium. Decomposer organisms play a most vital role in many of these cycles, releasing materials which have been incorporated into living organisms so that they are once again available to other organisms in the environment.

Man's present exploitation of consumable resources, in most cases, upsets these natural cycles. The manufacture and ultimate discarding of nonbiodegradable products removes important elements and compounds from the natural cyclic processes of the ecosphere and could ultimately lead to the exhaustion of such resources for the life support system. Burning of fossil fuels is changing the natural balance of oxygen and carbon dioxide in the atmosphere, with the consequences largely unknown. Degradation of air and water through pollution and the application of pesticides destroys organisms which are vital to cyclic processes.

6. FINITENESS OF RESOURCES.

To paraphrase Barry Commoner: Everything has to come from somewhere. The earth has been likened to a spaceship because of its finite supply of all material resources. Inasmuch as life depends upon a continued supply of resources, things have to be used over and over. Continued exploitation of any resource will lead to its exhaustion unless that resource is recycled. The demands of today's technological societies are placing tremendous burdens on the earth's resources and, at the same time, the wastes generated are making other resources unavailable or unfit for supporting life. Projections indicate that we will have depleted our supply of fossil fuels and several important metals resources early in the next century.

Through photosynthesis, food is a renewable resource so long as the natural cycles are able to resupply the raw materials necessary, and so long as environmental conditions necessary for plant life are maintained. But, the amount of food that can be produced on the earth at any one time is finite! There is only so much area available, only so much sunlight that can be intercepted, and only so much of the required raw materials available.

The consequence of this theme is that an indefinite continuation of growth and an increasing use of resources is impossible when the supply of all resource
tion, resource u
other parameter
dictions indicat
growth. Most o

7. POPULATION D

A population ref
occupying a give
is determined b
immigration, and
cally (e.g., 2,
their environmen
and disease. Th
equilibrium with
A common miscon
follow the first
curve up to the
There are, howev
shoot the carryi
rapidly depleted
population is a
the population i
capacity or the
appreciable leng
the population c
are searching ou

The strategy is
while it is here
process will sur
is evidence that
similar to those
of the earth's r

of all resources is finite. This is true of population, food consumption, resource utilization, technology, gross national product, or any other parameter which one chooses to measure. And all noteworthy predictions indicate that we are very rapidly reaching the limits of growth. Most of us will probably experience the dire consequences!

7. POPULATION DYNAMICS.

A population refers to a collection of individuals of the same species occupying a given space at a given time. The size of living populations is determined by four factors: rate of birth, rate of death, rate of immigration, and rate of emigration. Populations tend to grow geometrically (e.g., 2, 4, 8, 16, 32,...) to the limit (carrying capacity) of their environment as determined by the available food, space, predation, and disease. They then either level off and exist in some fluctuating equilibrium with other populations, or they crash back to some low level. A common misconception is that all biological populations tend to follow the first pattern: growth which is described by an S-shaped curve up to the carrying capacity, followed by a fluctuating equilibrium. There are, however, many biological populations which dramatically overshoot the carrying capacity of their environment and, as resources are rapidly depleted, crash back to a low population level. A blowfly population is a good example of the latter. Upon arrival at a carcass, the population increases rapidly, completely overshooting the carrying capacity or the environment's capacity to sustain the population for any appreciable length of time. As the food resource is quickly depleted, the population crashes back to the low level of a few adult flies who are searching out a new carcass to feed upon.

The strategy is simple -- exploit the environment for all it's worth while it is here and hope that a few of the many adults produced in the process will survive long enough to make it to the next carcass. There is evidence that the characteristics of human population growth are similar to those described for the blowfly, and our present exploitation of the earth's resources is certainly analogous to the strategy employed by the blowfly. While such a strategy may be sound for organisms like the blowfly, it certainly would be disastrous for mankind. The earth is the only carcass that we have.

Since resources are finite, no population can continue to grow forever. The human population has grown geometrically over the past few centuries. Doubling time of the human population is currently less than 35 years, and the most optimistic estimates indicate that this population will exceed the carrying capacity of earth within a century (some suggest that we have already passed the carrying capacity and many demographers and ecologists have predicted a crash in the human population prior to the year 2020). Population control and zero population growth will be accomplished, either by self-imposed means or by natural means. If the latter, it will occur through starvation, disease, war, or lower fecundity. There are no other plausible alternatives!

Perhaps the greatest service that this curriculum could hope to perform is to help this population of youngsters understand the implications of population growth and the necessity for limiting family size. But, to achieve the desired end, the curriculum must provide the students with an understanding of the ways and means by which family size may be controlled. This is one area where individuals can make decisions, can have an influence, and can contribute to the solution of what may be mankind's most pressing problem!

8. ECOLOGICAL TRADE-OFFS.

"Every coin has two sides."

As we have seen, all environmental components are interrelated in intricate, complex ways. No action has singular impact, and thus any course of action must be carefully weighed and alternatives considered. Any course of action involves ecological trade-offs.

For example,
enjoy a life
labor-saving
electricity
large, we ha
environmenta
cal applianc
electrical p
Montana, exp
leum reserve
the arctic t
plants. In
of environme

INQUIRY PHIL

We do not vi
which facts
schemes. We
facts, not f
which concep
strategy.

Inquiry, sim
as a process
For EMH stud
to learning.
his curiosit
question or
behaviors su
ting, inferr
creative thi

There are de
posed and th

For example, consider society's use of electricity. Many of us enjoy a life style which is very closely tied to the conveniences and labor-saving devices powered by electricity. The generation of that electricity is a major factor in environmental degradation. By and large, we have made the decision to forego a certain amount of environmental quality to enjoy the leisure and convenience of electrical appliances. Projections indicate that increases in demand for electrical power will require strip mining vast areas of Wyoming and Montana, exploiting oil shale reserves of Colorado, depleting the petroleum reserves of the Alaskan north slope (with the inherent dangers to the arctic tundra), and constructing large numbers of nuclear power plants. In all of these activities, we will trade off various amounts of environmental quality.

INQUIRY PHILOSOPHY

We do not view science as a collection of facts, but as a process by which facts are gathered, interpreted, and organized into conceptual schemes. We have included facts, and activities structured to generate facts, not for their intrinsic value but to provide the means through which concepts and generalizations are developed through an inquiry strategy.

Inquiry, simply defined, is finding out why. Inquiry may be defined as a process of questioning, of seeking information, of discovering. For EMH students, as for others, the excitement of discovery adds meaning to learning. Inquiry allows the student a natural avenue for satisfying his curiosity about his world. An inquiry strategy is one which poses a question or problem and then guides students through inquiring kinds of behaviors such as observing, describing, identifying, comparing, associating, inferring, applying, predicting, translating, guessing, speculating, creative thinking (divergent production), and value judging.

There are degrees of inquiry. On one end of the scale, a question is posed and the student, after analyzing the question and applying his experiences and background information, answers the question. At the other extreme, the student poses the question after being given a certain amount of background information, and then proceeds to answer the question after being given a certain amount of background information, and then proceeds to answer the question by designing an experiment, conducting the experiment, and interpreting the results.

All degrees of inquiry have a common ingredient: the answer is not given; it is arrived at by the individual after he has analyzed information relevant to the question. The distinction is obvious -- in inquiry strategies the questions are answered by the students and not the instructor.

If knowledge is acquired, at least in part, through an inquiry strategy, then the student should be able to use that strategy in acquiring further information and solving future problems as they arise.

It is assumed that after completion of the curriculum, the student will ask questions that emerge through the interaction of environmental inputs with the experiences we have provided. He will be more able to seek answers to these questions through his ability to acquire and interpret information.

INQUIRY SKILLS

1. OBSERVING is a fundamental activity of scientists. The accumulation of information which may lead to knowledge comes primarily from what we see, hear, taste, smell, or touch. A major function of this curriculum should be to offer a rich and varied environment of concrete experiences for the students. As students gain experience, accuracy in observing and recording the details of their findings should be increased. Observing should frequently

include an
to heed all
can. Opini
course, a p

2. IDENTIFYING
certain pro
This include
definition,
previous ex

3. ASSOCIATING
tionships o
thought of a
information
associating,

4. DESCRIBING i
observations
to use the c
he did not a
enhance deve

5. COMPARING in
to note simi
student's ab
to generaliz
the use of r
that one hav
and smaller-
values, e.g.

6. TRANSLATING
expressed in

stion. At the
ng given a certain
nswer the
nd infor-
gning
ng the

nswer is not
nalyzed
s obvious --
students

nquiry
rategy in
ns as they

he student
f environ-
will be more
ity to

The accumu-
mes primarily
ajor function
ied environ-
tudents gain
details of
d frequently
.

include an element of divergent production by asking the students to heed all of the details, extraneous and otherwise, that they can. Opinion, interpretation, and speculation are not, of course, a part of observing.

2. IDENTIFYING involves the recognition of what something is or of certain properties that make it possible to categorize the thing. This includes the determination and/or matching of a name or definition, the use of a key or guide, or the recall of a label from previous experience.

3. ASSOCIATING involves seeing what things go together -- seeing relationships or recognizing common properties. Associating may be thought of as a prerequisite to classifying, or organizing data or information for some purpose. Grouping (classifying), through associating, may enhance conceptualizing.

4. DESCRIBING involves writing or verbalizing orally all of the relevant observations about a thing so that another individual would be able to use the description to identify the object or share in an event he did not actually experience. Emphasizing description should enhance development of observational skills.

5. COMPARING involves the inspection of two or more objects (events) to note similarities and differences. It is closely related to the student's ability to distinguish between critical differences and to generalize recognizible similarities. This skill could involve the use of referents other than the things compared. It is necessary that one have an understanding of such comparatives as hotter-colder and smaller-larger, as well as a comprehension of their related values, e.g., warmer-cooler and littler-bigger.

6. TRANSLATING is the skill in which recorded observations (data) are expressed in another symbolic form. The conversion of tabular

information into a graph or of a verbal description into a drawing exemplifies this.

7. INFERRING involves drawing a conclusion based on evidence. It requires going beyond the information at hand to describe an effect or answer a question. It involves extrapolation and implication, and is closely related to two of the problem-solving skills: interpreting results and drawing conclusions.

8. APPLYING involves the utilization of a learned task or skill in some other situation than that in which the task or skill was originally learned. For example, if a child has learned to orient the top of one map with north, an application would be to orient another map in a similar manner.

9. GUESSING is the generation of ideas about outcomes in a data-poor situation. It involves using one's common sense and hunches to make the most informed judgment one can.

10. SPECULATING is the process of generating ideas about the nature or outcome of something one has not had the opportunity to observe, but about which one can think based on past experiences. It may be that a great deal is known about the subject, but without having observed it, one must describe the event from imagination.

11. PREDICTING is the skill of making informed estimates of what should happen in a given situation, based on knowledge of what enters into the situation and previous experience.

12. DIVERGENT PRODUCTION refers to the process of generating as many ideas about something as possible.

13. VALUE JUDGING involves more than simply expressing opinions or preferences. It is the comparison of things and the assignment of relative value to them, based upon some set of criteria. In this curriculum, the WHY of valuing should be sought.

Inquiry is fi
WHY is proble
is a structu
success, to l
experiences p
and solve the

There are at
The minimum
the functiona
capability of
completion.
a complex pac
development,
closely relat
organizers of

A brief descr
solving skil
easiest to mo

1. EXPERIMEN
the oppor
set of ma
explore,

Some exam
of enviro
can be bu
use therm
burning t
balances,

into a drawing

idence. It
scribe an effect
d implication,
g skills: inter-

or skill in
skill was
arned to
n would be

in a data-poor
d hunches to

t the nature
nity to observe,
nces. It may
t without
m imagination.

s of what should
what enters into

ating as many

opinions or
e assignment
riteria. In
t.

PROBLEM SOLVING SKILLS

Inquiry is finding out WHY. The process of finding the answers to WHY is problem solving. The ME AND MY ENVIRONMENT science curriculum is a structured sequence of activities that enable the student, through success, to learn to seek the answers to WHY. It is hoped that the experiences provided in the curriculum will enable the student to face and solve the problems of everyday life, both now and later.

There are at least three levels of mastery of problem solving skills. The minimum level is an awareness of the skill. The second level is the functional ability to perform it. The highest level includes the capability of designing an original experiment and carrying it to completion. It should be borne in mind that problem solving behavior is a complex package involving past experience, motivation, cognitive development, etc. The development of problem solving skills should be closely related to the appropriate inquiry skills, concepts, and other organizers of the curriculum.

A brief description of the intended interpretation of the problem solving skills follows in what we consider to be a hierarchy of easiest to most difficult.

1. EXPERIMENTING is doing something to see what happens. It is having the opportunity to "mess around" with a given piece of apparatus or set of materials, to pursue individual curiosity or interest, to explore, and to find things out.

   Some examples of experimenting include: investigating the properties of environmental objects (e.g., which ones will float, which ones can be burned, which are man-made, etc.), having the opportunity to use thermometers or balances, raising a classroom pet or plants, burning things under a pinwheel, having time to experiment with the balances, etc.

It is important to distinguish between experimenting as we have defined it and the formal aspects of experiment and experimental design. Note that the formal aspects are dealt with as a separate category and that designing experiments is thought to be the most difficult of the problem solving skills.

To encourage development of this skill, instructions such as "ALLOW STUDENTS TO MANIPULATE AND EXPERIMENT WITH THE BALANCES," "CAPITALIZE ON STUDENT INTEREST BY ALLOWING STUDENTS TO OBSERVE AND HANDLE THE PETS," etc., are given to the teacher.

2. KNOWING what the problem is and what to do to solve it. Defining the problem and its parts clearly is an important first step in any problem solving situation. We assume that recognition and definition of a problem represents a difficult task for this student population, and has therefore been placed high in the problem solving skill hierarchy. The purpose of this skill is to assist students through many experiences in recognizing that a problem exists, in defining that problem, and understanding how answers to that problem might be obtained. This skill must be emphasized (that is, the problem made explicit) for the logical development of those skills which follow. Here we are concerned that the student know the question under investigation and clearly understand the methods to be used in attempting to answer that question. The materials should emphasize, for both teachers and students, that science is a process of finding answers to questions. There is a subtle difference between telling the student the answer to the question he is investigating (e.g., "To see if it is warmer in the sun or in the shade") as opposed to making it clear what the task focus is (e.g., "To see if there are differences in the temperature of different parts of the environment, and if so, see if we can discover what makes the temperature different in different places").

3. RECORDING DA
observation
Recording of
investigator
interpret th
the collecti
by the quest
recording so

4. DISCUSSION A
A look at th
investigatio
from another
and dialog r
of variabili
identificati
The ability
involved her
observing, i
of cognition
provides the
understandin
sibilities f
activities t
review.

5. ORGANIZING DA
mation makes
Included in
or deciding
such as line
representati
related to d
Organizing d
lating infor

3. RECORDING DATA questions of science are answerable through observation and collection of data pertinent to the question. Recording of observations is a necessary skill to enable the investigator to recall the observations and discuss and interpret them in view of the question. Included here is the collection and transcription of information called for by the question. Making sketches, notes, taking pictures, recording sounds, recording measurements, etc., are included.

4. DISCUSSION AND TREATMENT OF GROUP DATA -- COMPARING RESULTS A look at the outcomes of each student's or student group's investigation and a discussion of why one result may differ from another should emphasize the dynamics of group discussion and dialog rather than recitation and monolog. Discussion of variability of results should assist students in the identification of variables which may influence outcomes. The ability to express or talk about what was done is involved here, with students operating primarily at the observing, identifying, describing, and comparing levels of cognition. Discussion of individual or group results provides the teacher with an opportunity to assess student understanding of the investigation and to recognize possibilities for further investigation, alternative activities to re-emphasize particular concepts, or review.

5. ORGANIZING DATA The ordering and grouping of recorded information makes it easier to interpret and see relationships. Included in this category are tabulation of data, averaging or deciding on best estimates, any visual representation such as line or bar graphs, and pictures or schematic representations. This is the most difficult skill directly related to data for students to become proficient in. Organizing data often involves the inquiry skill of translating information into a different symbolic form.

6. EXPLAINING, DEFENDING, ANSWERING WHY QUESTIONS This involves discussion of a more sophisticated level than that previously considered. Explaining should assist in the development of the idea of cause and effect. It implies the students' understanding of the question, the procedures, and some ability to interpret results. Defending encourages confidence in one's procedures and interpretation of outcomes. Answering why questions requires an understanding of the questions and task as well as forcing students to analyze data and make interpretations. In the activity Food For Sleep, such questions as "WHERE DID THE HEAT ENERGY COME FROM?" "HOW DO YOU KNOW?" and "WHY ARE YOU TAKING THE TEMPERATURE OF ALL THREE CONTAINERS?" fall into this category. To answer such questions, the students are often operating at the inference level of cognition.

   Specific examples of such questions are included in the guide. It seems particularly appropriate for the teacher to be asking individuals or groups these kinds of questions as they proceed with an investigation. We need to emphasize, by providing questioning strategies, that discussion of this sort with individuals and small groups is an effective method of instruction which provides immediate feedback to the teacher.

7. ASKING QUESTIONS This category refers to student questions which are raised as a result of their observations, experiences, and experimenting. Teachers are given examples of the kinds of questions that students may raise and suggestions of how such questions should be dealt with.

8. IDENTIFYING VARIABLES Identification of those variables which may influence the outcome of an investigation is necessary if one is to understand the concept of a controlled experiment, if one is to make any sort of an appraisal of the design of a
make an int
experiment.
that many f
recognize a
learn much
skill is hi

9. IDENTIFYING
variables t
variables e
constant ca

10. INTERPRETIN
problem sol
Explicit mo
deal with t
question as
tions of da
question; n
for further
temptation

11. DRAWING CON
conclusions
sions that
conclusions
experimenta
forced conc
gathered.

12. RECOGNIZING
necessary p
problem sol

design of an experiment or investigation, and if one is to make an intelligent interpretation of the results of an experiment. The first step toward these goals is to realize that many factors may influence an outcome and to be able to recognize and identify some of these factors. Students can learn much by asking about what affected the results. This skill is highly related to predicting.

9. IDENTIFYING CONTROLS Once the students are able to identify variables that may influence an outcome, the idea that all variables except the one under investigation must be held constant can be developed.

10. INTERPRETING RESULTS This is perhaps the most important of the problem solving skills, and may be the most difficult to develop. Explicit models for teachers and students are provided. They deal with the data collected and interpret it in terms of the question asked. Emphasis is placed on recognizing the limitations of data and that the data may or may not have answered the question; not going beyond the data; and recognizing the need for further investigation. Teachers are cautioned to avoid the temptation of ignoring the data and simply providing "the answer."

11. DRAWING CONCLUSIONS Interpretation of results may warrant drawing conclusions. The emphasis here is on drawing only those conclusions that are supported by the data collected. Some forced conclusions are inevitable because of the difficulty of providing experimental evidence; however, great care is exercised to avoid forced conclusions when an experiment is conducted and data gathered.

12. RECOGNIZING PROBLEMS AND FORMULATING QUESTIONS This skill is a necessary prerequisite for the general application of the other problem solving skills outside the classroom situation. In other

words, if we expect students to apply the problem solving skills above to their daily problems, it seems necessary that they be able to recognize that a problem exists and be able to state an appropriate question. To develop this skill, the students are presented with events or phenomenon that present an identifiable problem, and then given the opportunity to define that problem.

13. DESIGNING EXPERIMENTS Once the students are able to recognize a problem and formulate a question, an experiment to answer that question may be designed. The design should include identification of variables and controls, methods for observation, gathering data, organizing and presenting data, etc. It is assumed that this student population will be able to perform this skill only after a great deal of experience with the preceding skills.

SPECIFYING STRATEGIES FOR INSTRUCTION

The model for inquiry used in these materials demands that the focus of classroom activity be on student involvement with materials and activities. The teacher functions as a catalyst in generating pupil response in the learning situation. The response desired may be attitudinal, cognitive, or psychomotor: verbal or nonverbal. The teacher's behavior also falls in these same categories, but with an important difference: the teacher must be totally conscious of his role as a stimulus, while the student is generally unaware that he is being manipulated by strategy.

To communicate maximally with the teacher, we feel we must carefully describe as much as possible of the pattern of interaction upon which the anticipated results depend. The whole intent of this curriculum would be defeated if this pattern is not understood and implemented. We know, for example, that teachers often fail to allow children the opportunity or the time to think for themselves when a problem is

posed. The
tations of
express thei
to provide
that will --
benefits we

We do not a
individual
provide enou
unexpected
materials a

UNIT GOALS

Unit goals
of a major
will," is u
ments that
also serve
are directe

CORE OBJECTI

The core obj
outcomes for
to summarize
each of the
map for the
may also ser
attainment o

ving skills
t they be
o state an
dents are
dentifiable
t problem.

recognize a
swer that
identification
athering data,
hat this
only after

the focus
ials and
ting pupil
may be
al. The
t with
cious
inaware

carefully
upon which
curriculum
plemented.
ildren the
blem is

posed. They also frequently impose their observations and interpretations of things on children rather than allow the children to express their own views of things observed. We hope, therefore, to provide for teachers a model of strategy in these materials that will -- if initially studied and used -- demonstrate the benefits we describe for it in terms of pupil response behavior.

We do not anticipate that we can predict all that will occur with individual students in the classroom. We hope that we can, however, provide enough reminders to the teacher so that he will deal with unexpected or unpredicted events in the same mode in which the materials are written.

LEVELS OF OBJECTIVE STATEMENTS

UNIT GOALS

Unit goals are broad general statements that define long-term goals of a major portion of the unit. An initial statement, "The student will," is understood in each of the goals. They are defined as statements that capture the intent and emphasis of the curriculum. They also serve the function of organizers toward which the core objectives are directed.

CORE OBJECTIVES

The core objectives (stated in student behaviors) refer to the desired outcomes for sequences of activities. The role of these objectives is to summarize what the student will be able to do as a consequence of each of the activity sequences. The core objectives provide a cognitive map for the teacher to extend or elaborate on. These core objectives may also serve as evaluative guides to assess short-term progress and attainment of students.

Me and my Environment

ACTIVITY OBJECTIVES

Activity objectives are enabling or performance objectives that relate to the specific activity. They identify the actions or behaviors students must perform or acquire to insure their success in achieving the broader objectives of the curriculum. The role of the activity objective is to provide the teacher with specific instructional landmarks both to plot the course and to chart student progress. The objectives include information which the student has repeated or restated, experiences he has had, actions he has performed, and products he has made.

ANTICIPATED STUDENT RESPONSE BEHAVIORS

These focus on specific *actions or interactions occurring during instruction*. They describe what we predict students will do or say in response to some specific strategy.

TEACHING THE MATERIALS

It is often said that man is a curious animal and that science is a content vehicle to capitalize on this phenomenon.

Science, then, for the EMH student, capitalizes on the student's natural curiosity about himself. Science is exciting, and ME AND MY ENVIRONMENT relies on this excitement. This science program has been designed to fit into the already existing curriculum framework and within individual teaching philosophies.

The amount of time spent on each activity can be tailored to fit the mood of the class and the teacher. An averate of 45 minutes may be required for all activities. Some activities will require extensive time, perhaps several days. The main point in teaching ME AND MY ENVIRONMENT is not to hurry -- to allow sufficient time for inquiry to occur.

The ME AND MY ENVI
take less time. T

Particular attenti
curriculum with th
Sight vocabulary i
suggestions given
lary lessons. Mat
the lessons provid

PLANNING GUIDE

Teaching the mater
time. Less prepar
planning guide wil
example, if a film
remind you when.
when initiating an

OVERVIEWS

Each UNIT and CORE
teacher an insight

RATIONALE

Each UNIT and CORE
the why of the par
read, thought abou
to focus on and su
students.

The ME AND MY ENVIRONMENT sequence may span three years, or it may take less time. The pace can be set by the individual teacher.

Particular attention has been given to articulating the science curriculum with the other parts of the instructional program. Sight vocabulary is included in many of the activities, and suggestions given for using these words in spelling and vocabulary lessons. Math skills are an integral part of science, and the lessons provide application of the student's math skills.

PLANNING GUIDE

Teaching the materials for the first time will require preparation time. Less preparation time is required after that. The teacher's planning guide will help you prepare materials in advance. For example, if a film is to be ordered, the planning guide will remind you when. The guide should be followed rather rigidly when initiating an activity.

OVERVIEWS

Each UNIT and CORE is provided with a summary "roadmap" to give the teacher an insight into the direction or groupings of activities.

RATIONALE

Each UNIT and CORE is provided with a section to provide background into the why of the particular material used. These rationales should be read, thought about, and continually referred back to in order for you to focus on and subsequently provide *why intentionality* to your students.

BACKGROUND INFORMATION

Some pertinent points which are not necessarily developed in the curriculum itself but which will provide you with useful information have been incorporated in this section at the beginning of each CORE.

REVIEWS TO SUCCESS AND CLUES TO SUCCESS

A portion of the evaluation program during the first field testing of ME AND MY ENVIRONMENT entailed the use of what was basically an objective pretest, administered on the days before beginning instruction on each unit, and an identical posttest administered the days following completion of each unit. The items included in each test were specifically designed to secure information on the students' background knowledge as well as to secure data about the success of the materials. They were not used to evaluate the youngsters.

Because the item designs for use with this student population proved highly effective, many of these questions, along with some situational tasks, have been incorporated into two *instructional assessment sections*. The first of these, "Clues to Success," appears periodically within various activities so that you can have immediate feedback on the effectiveness of the materials and instruction. At this point you have the unique opportunity to determine whether or not your students are ready for the next activity or whether a modification, repetition, extension, or review of certain activities is necessary before proceeding.

The "Reviews to Success" are generally concluding activities in a CORE. They enable you to assess the effectiveness of instruction for the entire CORE and to decide if the students are prepared for the next set of objectives.

WORKSHEETS

The worksheets in the program are used in a variety of ways: a) as reinforcement to general or specific objectives; b) to introduce new infor
an activi
covered i
on daylig
chalkboar

35mm SLID

This medi
inquiry a
the teach
strategie

You need
Your stud
move from
It will b
those win
chalkboar

The large
clearly.
from the
above or

It is exp
directly

Be sure t
Carousel
insertion

GAMES

Perhaps t
objective

new information and to record data; c) to enhance the interest in an activity; d) as a culminating activity to review what has been covered in previous lessons. Difficult worksheets are duplicated on daylight slides. These worksheets should be demonstrated on the chalkboard before they are attempted by the individual students.

35mm SLIDES

This medium broadens instructional opportunities, especially during inquiry activities. The projected image should be used both by the teacher and by most students during instruction. The teaching strategies give specific instructions for using them.

You need not completely darken your classroom when using the slides. Your students should be able to write or read at their desks or move from their desks to the board while the slides are being shown. It will be desirable, however, to turn off those lights or darken those windows where the light is reflected directly from the chalkboard.

The largest possible image is usually best for the students to see clearly. Therefore, place the slide projector as far as possible from the chalkboard, but so that the image projected does not extend above or below the edges of the board.

It is expected that students and teachers will often use chalk to mark directly on the projected image.

Be sure that you are familiar with the operating instructions for the Carousel Projector and that you observe the manufacturer's cautions for insertion and projection of slides, trays, bulbs, and lenses.

GAMES

Perhaps the most ambitious of the endeavors has been to promote certain objectives through the use of games and game theory. Besides providing variation to the instructional mode, the games are used to dramatize some of the major concepts in the curriculum, as well as to give experience in cooperation and taking turns.

BOOKLETS

This medium is used as a variation to the worksheets and 35mm slides. It combines a minimum of reading with cartooned illustrations to present somewhat detailed factual information.

POLAROID CAMERA

To increase the opportunities for involving all students in the activities, a Polaroid camera has been included as part of the instructional materials. The camera is provided through the courtesy of the Polaroid Corporation.

A camera in the classroom can serve as a valuable motivation device for students, as well as a help in prolonging their ever-so-short interest span. The instant feedback from the pictures is a replay of the actual class activity, a photographic record that can be used to compare before and after conditions, a progress report of growth and development, or an assessment of the learning that took place in an activity. Actually operating the camera, manipulating parts, focusing, developing, and viewing the finished product affords an ego-building experience. Such experiences will help the student develop self-esteem and self-confidence, thus contributing to the development of a success syndrome.

sed to dramatize
il as to give

s and 35mm slides.
strations to

dents in the
part of the
rough the

otivation
g their
from the
a photo-
nd after
ment, or
activity.
focusing,
s an ego-
e student
ibuting

MATERIALS

- Camera (Polaroid Square Shooter)
- Polaroid film
- Flash cubes
- *Masking tape
- *Yardstick
- *Marking devices
- *Clock with second hand
- Worksheet 0
- *Foot ruler

TEACHING STRATEGIES

Floating Activity. Meet The Camera

Most students will not know how to operate the Square Shooter Camera. A good understanding now of how it works is essential to the successful use of the camera in subsequent activities.

Begin by saying:

> MANY OF OUR CLASS ACTIVITIES THIS YEAR WILL REQUIRE TAKING PICTURES. HOW MANY OF YOU HAVE EVER USED A CAMERA?

Then ask:

> DO YOU KNOW WHAT KIND OF CAMERA THIS IS? (Holding up camera.)

If yes, then ask:

> HAVE YOU TAKEN A PICTURE WITH A CAMERA LIKE THIS?

If a student has operated a Polaroid Camera previously, select that student to assist you with the activity.

Say:

> THIS CAMERA IS CALLED A POLAROID SQUARE SHOOTER. IT MAKES PICTURES THAT YOU CAN

	BSCS
CHING STRATEGIES	**ANTICIPATED STUDENT BEHAVIORS**
eet The Camera *ot know how to operate the Square* *ood understanding now of how it* *the successful use of the camera* *ties.*	*At the end of this activity, each student should:* *--have become familiar with the distance of 3 1/2 feet, 5 feet, and 10 feet.* *--have participated in identifying parts of the camera.* *--have counted time in seconds.* *--have operated the camera in taking a picture.* *--have developed a picture.*
	Students:
SS ACTIVITIES THIS YEAR WILL ICTURES. HOW MANY OF YOU CAMERA?	--respond by show of hands.
T KIND OF CAMERA THIS IS? era.)	--respond, "Yes," "No," "Don't know."
PICTURE WITH A CAMERA	--respond, "Yes," "No."
rated a Polaroid Camera previously, o assist you with the activity.	
ALLED A POLAROID SQUARE KES PICTURES THAT YOU CAN	

MATERIALS

TEACHING STRATEGIES

> SEE IN ONE MINUTE AFTER THEY ARE TAKEN. THRO
> OUT THE YEAR YOU WILL BE USING IT TO TAKE
> PICTURES OF CLASS ACTIVITIES AND EACH OF
> YOU WILL HAVE A CHANCE TO OPERATE IT MANY TI

At this point have students gather around the came get a closer look and examine it in order to becom familiar with it.

When students are seated once again, distribute Wo 0 of camera parts.

Show and tell about the parts of the camera while students find them on Worksheet 0. Write the name the part on the chalkboard as you discuss it. Hav pupils say the name. Continue until you have ment all parts essential to their first effort.

Say:

> NOW THAT WE HAVE SEEN ALL THE PARTS OF THE CA
> WHAT ELSE DO YOU THINK WE NEED TO KNOW IN ORD
> TO WORK THE CAMERA WELL ENOUGH TO GET GOOD
> PICTURES?
>
>> If no one implies that it is important to know the distance of the object, the say:
>>
>> IN ORDER TO GET A CLEAR PICTURE WE MUST
>> KNOW HOW FAR THE OBJECT IS FROM THE
>> CAMERA, AND THEN ADJUST THE CAMERA
>> TO TAKE A PICTURE.

Refer to Distance Scale on Lens Ring. Say:

> THIS IS THE PART THAT SHOWS WHICH DISTANCES
> THE CAMERA CAN ADJUST TO FOR CLEAR PICTURES.
> 3 1/2 FEET, 5 FEET, 10 FEET, ETC.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
MINUTE AFTER THEY ARE TAKEN. THROUGH- AR YOU WILL BE USING IT TO TAKE F CLASS ACTIVITIES AND EACH OF AVE A CHANCE TO OPERATE IT MANY TIMES.	
ave students gather around the camera to ok and examine it in order to become more t.	--look at camera.
re seated once again, distribute Worksheet ts.	
bout the parts of the camera while the hem on Worksheet 0. Write the name of chalkboard as you discuss it. Have ame. Continue until you have mentioned tial to their first effort.	--identify parts of camera on the worksheet.
E HAVE SEEN ALL THE PARTS OF THE CAMERA O YOU THINK WE NEED TO KNOW IN ORDER E CAMERA WELL ENOUGH TO GET GOOD	--give varied responses.
one implies that it is important ow the distance of the object, then	
DER TO GET A CLEAR PICTURE WE MUST HOW FAR THE OBJECT IS FROM THE A, AND THEN ADJUST THE CAMERA KE A PICTURE.	
ce Scale on Lens Ring. Say:	
E PART THAT SHOWS WHICH DISTANCES CAN ADJUST TO FOR CLEAR PICTURES. , 5 FEET, 10 FEET, ETC.	

MATERIALS	TEACHING STRATEGIES
	Show a foot ruler. Ask students to identify it. Say: LET'S MARK A DISTANCE THAT IS 3 1/2 FEET LONG ON THE FLOOR SO WE CAN TELL HOW FAR THAT DISTANCE IS WHEN WE'RE TAKING A PICTURE. Select a volunteer to assist you in marking off the distance with a foot ruler. Use a piece of masking tape to mark the distance. Reiterate how the ruler is placed end to end to get the distance. Have students search around the room for objects that are approximately 3 1/2 feet long or that are a distance of 3 1/2 feet away from the next object. Repeat this procedure for 5 feet and 10 feet. Allow plenty of time for students to associate one distance at a time with objects in the classroom. While one-half of the class continues to familiarize themselves with distances, organize the other half to take turns looking through the view finder on the camera to become acquainted with the black line and red arrow inside. Allow them time to practice taking pictures without shaking the camera (refer to position, page 3 in the camera manual). When everyone in this group has peered through the view finder and practiced holding the camera steady, switch groups and provide the same experience for the other half of the class. At a point when all pupils have tried the camera and determined distances, refer to the camera Worksheet 0 once again -- this time the back view.

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
Ask students to identify it.	--respond, "A ruler," "A stick," "I don't know."
ISTANCE THAT IS 3 1/2 FEET LONG O WE CAN TELL HOW FAR THAT EN WE'RE TAKING A PICTURE.	
o assist you in marking off the t ruler. Use a piece of masking stance. Reiterate how the ruler is o get the distance.	
n around the room for objects that are feet long or that are a distance of m the next object. Repeat this t and 10 feet. Allow plenty of o associate one distance at a time classroom.	--approximate distance and lengths of 3 1/2 feet, 5 feet, and 10 feet.
he class continues to familiarize tances, organize the other half to through the view finder on the quainted with the black line and llow them time to practice taking aking the camera (refer to position, a manual).	--look through the view finder. --practice judging distance.
is group has peered through the view d holding the camera steady, switch the same experience for the other half	
pupils have tried the camera and s, refer to the camera Worksheet 0 time the back view.	

xxx

MATERIALS

TEACHING STRATEGIES

Say:

> WE ARE NOW READY TO PUT FILM IN THE CAMERA. (Identify and discuss only the parts the students need to use in loading the camera.)

Say:

> (Student's name), WOULD YOU LIKE TO HELP ME LOAD THE CAMERA?

Follow instructions on HOW TO LOAD FILM on pages 10 and 11 of the camera manual.

Have the student fit the film pack on the camera, close and lock the back.

Since pictures require a specific amount of time to develop, it will probably be necessary at this point to conduct a session on telling time by the second hand.

Say:

> AFTER A PICTURE IS TAKEN, THE FILM REQUIRES 60 SECONDS TO DEVELOP. LET'S SEE IF WE CAN GET AN IDEA OF HOW LONG THAT IS.

Direct the students' attention to the second hand on the clock, preferably a wall clock so that all may see at the same time. Point out the second hand and tell them to watch it go around the clock a few times.

Say:

> NOW WE ARE GOING TO COUNT THE AMOUNT OF TIME IT TAKES THE SECOND HAND TO GO FROM 12 BACK TO 12. I WILL TELL YOU WHEN TO START COUNTING.

CHING STRATEGIES

Y TO PUT FILM IN THE CAMERA.
iscuss only the parts the students
loading the camera.)

), WOULD YOU LIKE TO HELP ME
?

on HOW TO LOAD FILM on pages 10
manual.

the film pack on the camera,
ack.

re a specific amount of time to
bably be necessary at this point
on telling time by the second hand.

IS TAKEN, THE FILM REQUIRES
EVELOP. LET'S SEE IF WE CAN
HOW LONG THAT IS.

attention to the second hand on the
wall clock so that all may see at
t out the second hand and tell them
d the clock a few times.

G TO COUNT THE AMOUNT OF TIME
COND HAND TO GO FROM 12 BACK TO
L YOU WHEN TO START COUNTING.

ANTICIPATED STUDENT BEHAVIORS

Students:

--assist with loading the camera.

--observe second hand on clock.

MATERIALS

TEACHING STRATEGIES

When the second hand approaches 12, signal the class to start counting the seconds softly. When the hand returns to 12 say:

> STOP. WHAT NUMBER WERE YOU SAYING WHEN I SAID STOP?

Then say:

> IT TOOK 60 SECONDS FOR THE HAND TO GO ALL AROUND THE CLOCK. IT ALSO TAKES 60 SECONDS FOR THE FILM TO DEVELOP. LET'S TRY COUNTING THE SECONDS AGAIN, THIS TIME GOING FROM 3 BACK TO 3.

Repeat the previous procedure.

Say:

> NOW WE ARE READY TO TAKE OUR FIRST PICTURE.

Arrange class for a group picture. When the picture is taken, pull film out of camera and have the class count off the 60 seconds of developing time. Peel off the film.

Say:

> AS YOU PEEL OFF THE FILM FROM THE PICTURES YOU TAKE, BE CAREFUL OF A JELLYLIKE CHEMICAL ON THE FILM. IT IS IMPORTANT TO KEEP THIS JELLY AWAY FROM YOUR EYES AND MOUTH, AND ALSO AWAY FROM YOUR CLOTHES.

Demonstrate how to fold up the negative. Now proudly sho your product to the class.

Say:

CHING STRATEGIES

approaches 12, signal the class to
econds softly. When the hand returns

BER WERE YOU SAYING WHEN I SAID

NDS FOR THE HAND TO GO ALL
K. IT ALSO TAKES 60 SECONDS
DEVELOP. LET'S TRY COUNTING
IN, THIS TIME GOING FROM 3

procedure.

Y TO TAKE OUR FIRST PICTURE.

group picture. When the picture is
of camera and have the class count
f developing time. Peel off the

THE FILM FROM THE PICTURES YOU
L OF A JELLYLIKE CHEMICAL ON THE
PORTANT TO KEEP THIS JELLY AWAY
AND MOUTH, AND ALSO AWAY FROM YOUR

old up the negative. Now proudly show
class.

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "60," "I forgot."

NOW IT IS TIME FOR YOU TO TAKE A PICTURE.

Follow the developing procedures on pages 18 and 19 of the camera manual.

Say:

THE PICTURE YOU TAKE MAY INCLUDE EITHER ONE OR TWO CLASSMATES.

Organize the class for taking pictures. Assist studen only when absolutely necessary.

Let the picture taking continue until each student has an opportunity to take a picture. Let students choose the classmate whose picture he wishes to take.

Heap praise on students for any accomplishments. If a student's photo fails to turn out well, analyze the problem and allow him to try again.

Mention use of flash cubes at the time needed.

As students succeed in taking a good picture give them gummed label to stick on the back. Each label should include the teacher's name, date, who is in the pictur and what the picture is about. In the comments sectio identify who took the picture. Make clear that it is photographer's responsibility to see that every pictur takes is labeled. (He may need to get assistance from you or a classmate.)

G STRATEGIES

OU TO TAKE A PICTURE.

ocedures on pages 18 and 19 of

MAY INCLUDE EITHER ONE

aking pictures. Assist students
essary.

ontinue until each student has had
picture. Let students choose
re he wishes to take.

or any accomplishments. If a
turn out well, analyze the
try again.

es at the time needed.

aking a good picture give them a
the back. Each label should
me, date, who is in the picture,
about. In the comments section
cture. Make clear that it is the
ility to see that every picture he
ay need to get assistance from

ANTICIPATED STUDENT BEHAVIORS

Students:

--take pictures of classmates.

Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

AIMS FOR ME AND MY ENVIRONMENT

1. DEVELOPMENT IN EACH CHILD OF A SENSE OF IDENTITY AS A PERSON WHO HAS SOME DEGREE OF CONTROL OVER AND CAN ACT ON HIS ENVIRONMENT. This will lead to a degree of self-determination based on a rational coping with situations rather than on a passive compliance or an impulsive response to problems.
2. DEVELOPMENT IN EACH CHILD OF A SUCCESS SYNDROME. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility -- almost obligation -- to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. The students as a group should help each individual fit what he has done into a pattern of accomplishment.
3. DEVELOPMENT IN EACH CHILD OF AN INTEREST THAT COULD BECOME A HOBBY OR AVOCATION OVER A LIFETIME (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.
4. DEVELOPMENT IN EACH CHILD OF A SENSE OF RELATIONSHIP AND EMPATHY WITH OTHER LIVING THINGS. It is hoped that this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. DEVELOPMENT IN EACH CHILD OF AN UNDERSTANDING OF ENVIRONMENTAL CONDITIONS that will lead to a sense of responsibility for the environment and actions that protect or improve it.

1. Explore his immediate envir
physical contacts.
2. Recognize the environmental
3. Create a greater interest i
environment.
4. Understand that his environ

1. Expand the use of his sense
2. Identify a wide variety of
3. Identify some qualities tha
4. Determine the relationship
5. Infer the needs of plants a

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

AS A
AN ACT
of
th
an

ed
s
n --
s
his
the
ts
he

LD
ough
e).
ea --
ti-
ving
ly
ge
on,
olve-

HIP
ed
ng
roup,
f man.

e of
at

UNIT I GOALS

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

OBJECTIVES OF CORE A

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

CORE A RATIONALE

Much of our time is spent looking at our environment but not really observing it. Primarily, our environment is made up of things -- solids, liquids, and gases. These "things" interact with our sense organs and with each other. Really observing our environment requires both know-how and skill. The natural environment is too essential and beautiful a part of each person's life to be set aside in favor of TV, alcohol, or drugs. To observe it and become aware of it through all the senses is to take the first step toward understanding and appreciating one's environment. The purpose of this core is to focus the students' attention on his immediate environment -- home, school, and neighborhood. Taking part in the activities included in the core will, we hope, increase the student's observational skills.

Living things are part of the student's environment. Before he is able to perceive how living things interact, the student will find it valuable to focus attention on a particular living thing. An animal is brought into the classroom in Activity 1-1 (An Animal In Class) and for the portion of the year that it remains, it is dependent on the student for its needs. In this way the student learns firsthand about the animal's life requirements.

This idea is expanded in Activity 1-2 (A Pond In The Classroom) when a miniature pond habitat is established and maintained. The student will develop over a period of time the concept that the number and kinds of plants and animals are in balance, and that these living things are interrelated in terms of their food and living conditions. Both the classroom animal and pond, which become an integral part of the classroom at the beginning of Unit I, serve as focal points for activities throughout the entire year. By studying an ecosystem such as a pond for an extended period of time the class will be able to learn about "the environment" and how living and nonliving things affect one another.

Environmenta
senses. Since ma
his senses, the v
used properly. I
be using his sens
other senses, thr
attempting to mak
that several aspe
mind that what is
of such factors a
people do not see
shadow, and motio
to benefit the mo

While the un
do far more with
activities is a g
viewing the surfa
should hold it cl
slightly upward s
focus, move the o
becomes clear. L
moving the magnif

While seeing
dangers that need
that severe eye s
arc welder can ca
destroyed by look
Long exposure to
damage and even t

but not
p of
ract with
r environ-
nment is
o be set
d become
ep toward
pose of
iate
t in
e the

Before he
t will find
g. An
nimal In
is depen-
t learns

Classroom)
d. The
t the
that
d and
ich
of
e entire
nded
environ-
er.

BACKGROUND INFORMATION FOR THE TEACHER

Environmental awareness is to a great extent dependent upon the senses. Since man gains information about his surroundings through using his senses, the various sense organs must be functioning properly and used properly. In all of the activities in this core the student will be using his senses. Since we depend more upon vision than on any of our other senses, three activities are devoted specifically to vision. In attempting to make the necessary observations, students may not be aware that several aspects of sight are involved. The teacher should keep in mind that what is seen varies considerably from person to person. Because of such factors as color blindness, or simply lack of training, some people do not see the same hue or intensity of color as do others. Shape, shadow, and motion must form part of the overall awareness if a person is to benefit the most from his observations.

While the unaided eye tells us much about our environment, it can do far more with a magnifying lens. The magnifier used in several of the activities is a great help in examining small objects or in closely viewing the surface of larger objects. In using the magnifier, students should hold it close to one eye with the head held horizontally or slightly upward so the head does not shade the object being examined. To focus, move the object toward and away from the lens until the object becomes clear. Larger objects that can't be moved will of course require moving the magnifier instead of the object.

While seeing is informative and pleasurable, there are sometimes dangers that need to be considered. The student may need to be reminded that severe eye strain or brilliant lights such as those emitted from an arc welder can cause eye damage. Retinal cells in the eye can be destroyed by looking directly into the sun, even during a solar eclipse. Long exposure to intense sunlight reflected from snow can cause severe damage and even temporary blindness.

CORE A RATIONALE (continued)

Not only will the student be introduced to some organisms with which he is unfamiliar, he will also be observing food chains and webs, concepts which will be developed later in the program. He can discover that plants and animals die, and that death influences the size of populations. He will have the opportunity to study growth and development, life cycles of living things, and the adaptations that fit particular living things to particular environments.

As has been indicated, the above understandings do not develop to any degree without the development first of observational skills. The remaining activities are designed to help the students do better observing, so that they can experience their environment more meaningfully. Activity 1-3 (Taking A Closer Look), Activity 1-4 (A Closer Look Outside), and Activity 1-5, (Zoom In, Zoom Out) are all centered around vision as a means of observing. The students discover that there is more to "seeing" than meets the eye. Close, careful looking, sometimes assisting the eye with a magnifier, make it possible to view aspects of the environment that are often overlooked.

While most people normally think of their eyes when observation is mentioned, the other senses should not be neglected when learning about the environment. While our ears are sometimes considered less important than our eyes, hearing our environment can be both educational and pleasurable. In Activity 1-6 (Sounds From My Environment) and Activity 1-7 (Environmental Orchestra), sounds from the environment outside the classroom are brought in for the student to hear and inquire about. The job becomes harder, but more interesting, in Activity 1-8 (Sounds Around Us) when the student must leave the classroom, track down, and "capture" on tape selected environmental sounds.

Our noses are often the first to tell us of environmental pollution. Smell also is sometimes helpful in identifying certain

BACK

Potential d
Fumes from caust
nose. For this
stances with cau
investigating th
poisoning, no ac

Sound inten
noise level doub
decibels can pro
as high as 120 d
considerable los
dangers may help

The term en
different things
surrounds; all t
and affecting th
the purposes of
to define enviro

with
ains and
am. He can
uences the
dy growth
aptations
nts.

ot develop
nal skills.
s do better
more meaning-
(A Closer
all centered
over that
eful looking,
sible to view

observation
en learning
idered less
oth educa-
Environment)
he environ-
to hear
resting,
leave the
ironmental

ental
g certain

BACKGROUND INFORMATION FOR THE TEACHER (continued)

Potential dangers also exist when smelling, hearing, or tasting. Fumes from caustic chemicals can damage the nerve endings that line the nose. For this reason students should be warned to smell unknown substances with caution. Taste can also be interesting and informative in investigating the environment, but because of the danger of accidental poisoning, no activities have been included which focus on taste.

Sound intensity is measured in decibels. For every ten decibels, the noise level doubles. Exposure for some time to noise levels beyond 80 decibels can produce a degree of deafness. Rock bands may produce sounds as high as 120 decibels; exposure to such intensity of sounds has produced considerable loss of hearing in many young people. Understanding these dangers may help the students appreciate and protect their sense organs.

The term environment is introduced in this core. The word means many different things. One dictionary defines environment as something that surrounds; all the conditions, circumstances, and influences surrounding, and affecting the development of, an organism or group of organisms. For the purposes of ME AND MY ENVIRONMENT, it is both adequate and appropriate to define environment as "everything around us."

CORE A RATIONALE (continued)

plants or animals or in calling our attention to something of interest. In Activity 1-9 (Sniffing Around) the student has an opportunity to educate his nose environmentally.

In touching, a person sometimes discovers things he can't learn by using the other senses. An example of this is in determining the texture of soil by running it through the hands and fingers; or in feeling the delicate beauty of a flower. Activity 1-10 (A Strange Feeling) provides the student with an opportunity to "Get The Feel Of Things." The use of senses in perceiving one's environment is reemphasized in Activity 1-11 (Putting Yourself In The Picture -- A Review Of Success).

The final activity of Core A, Activity 1-12 (An Animal Environment), allows the student to practice his newly developed observational skills in examining the pond environment established in Activity 1-2.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ning of inter-
s an opportunity

e can't
s in determin-
s and fingers;
ty 1-10 (A
ity to "Get The
environment
he Picture --

imal
developed
established

Me and my Environment

UNIT I
CORE A

PLANNING G

NOTE: Some activities (*indicated in italics*
be prepared several days or weeks in a
a teaching and preparation schedule.

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed	
	Materials You Furnish	Materials in Supply Kit
1-1. An Animal In Class Page _____ Date planned _____	Small cardboard box Materials to construct a cage or a purchased cage Classroom animal	
1-2. A Pond In The Classroom Page _____ Date planned _____	Container suitable for a pond or aquarium Sand Pond animals Animal food Rocks Thermometer Pond plants	
1-3. Taking A Closer Look Page _____ Date planned _____	Shoeboxes with lids Collection of items to be put in each shoebox Stopwatch or watch with second hand	

PLANNING GUIDE

ivities (*indicated in italics and an* ➷ *in the margin*) must
red several days or weeks in advance. Use this summary as
ng and preparation schedule. All supplies needed are listed.

BSCS

Supplies Needed Materials in Supply Kit	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
	To be used as an inappropriate cage *Materials required will vary according to the animal selected* ➷ *To be purchased or secured after class selection*
	Suggested containers include: ➷ *hard plastic kiddie swimming pool* *baby bath tub* *concrete or mortar mixing tub* *Enough to cover the bottom of the container selected above* *See activity for suggestions* *Suitable for the animals selected above* *Several dozen and with a variety of sizes and shapes* Optional *See activity for suggestions*
	Six *Collection for each shoebox:* *6 rocks (variety)* *4 twigs* *2 shells* *4 leaves* *1 piece of wood* *One*

Me and my Environment

UNIT I
CORE A

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* 🍂 *i*
be prepared several days or weeks in advance. Us
a teaching and preparation schedule. All supplie

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	*(Ital*
1-3. Taking A Closer Look (Continued)		Magnifying lenses Worksheet 1-1 Slide 1-1	One per s Mystery B Worksheet
1-4. A Closer Look Outside Page _____ Date planned _____	Pieces of newspaper pictures Search cards 	 Magnifying lenses	*One per s* 3" X 5" i activit One per s
1-5. Zoom In, Zoom Out Page _____ Date planned _____	35mm Slide projector	Slide 1-2 Slide 1-3 Slide 1-4 Slide 1-5 Slide 1-6 Slide 1-7 Slide 1-8 Slide 1-9 Slide 1-10 Slide 1-11 Slide 1-12 Slide 1-13 Slide 1-14 Slide 1-15 Slide 1-16	Very clos Close vie More dist Very clos Close vie More dist Very clos Close vie More dist Very clos Close vie More dist Very clos Close vie More dist

PLANNING GUIDE

BSCS

ivities (*indicated in italics and an* ➤ *in the margin*) must
red several days or weeks in advance. Use this summary as
ng and preparation schedule. All supplies needed are listed.

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	(*Italics and Arrow Indicate Advance Preparation Directions*)
Magnifying lenses	One per student
Worksheet 1-1	Mystery Box Observation Sheet
Slide 1-1	Worksheet 1-1
	One per student
	3" X 5" index cards with directives written on them. See activity for the specific directives.
Magnifying lenses	One per student
Slide 1-2	Very close view of tin can
Slide 1-3	Close view of tin can
Slide 1-4	More distant view of tin can
Slide 1-5	Very close view of frog
Slide 1-6	Close view of frog
Slide 1-7	More distant view of frog
Slide 1-8	Very close view of newsprint
Slide 1-9	Close view of newsprint
Slide 1-10	More distant view of newsprint
Slide 1-11	Very close view of bridge
Slide 1-12	Close view of bridge
Slide 1-13	More distant view of bridge
Slide 1-14	Very close view of tree
Slide 1-15	Close view of tree
Slide 1-16	More distant view of tree

Me and my Environment

UNIT I
CORE A

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an ☛ in the ma*
be prepared several days or weeks in advance. Use this s
a teaching and preparation schedule. All supplies needed

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	(*Italics and*
1-5. Zoom In, Zoom Out (Continued)		Slide 1-17	Very close view
		Slide 1-18	Close view of pe
		Slide 1-19	More distant view
1-6. Sounds From My Environment	35mm Slide projector		
	Cassette tape recorder		
		Tape of environmental sounds	
Page _____		Slide 1-20	Sawing wood
Date planned _____		Slide 1-21	Motorcycle
		Slide 1-22	Cricket
		Slide 1-23	Jet take-off
		Slide 1-24	Toilet flushing
		Slide 1-25	Wind storm
		Slide 1-26	Thunder storm
		Slide 1-27	Surf
1-7. Environmental Orchestra	Cassette tape recorder	Set of environmental habitat sounds	
			Set A - Marsh
			Set B - Airport
Page _____			Set C - Park
Date planned _____			Set D - Rural fa
			Set E - City str
			Set F - Woodland

PLANNING GUIDE

ivities (*indicated in italics and an* ↙ *in the margin*) must
red several days or weeks in advance. Use this summary as
ng and preparation schedule. All supplies needed are listed.

BSCS

Supplies Needed Materials in Supply Kit	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
Slide 1-17	Very close view of peacock
Slide 1-18	Close view of peacock
Slide 1-19	More distant view of peacock
Tape of environmental sounds	
Slide 1-20	Sawing wood
Slide 1-21	Motorcycle
Slide 1-22	Cricket
Slide 1-23	Jet take-off
Slide 1-24	Toilet flushing
Slide 1-25	Wind storm
Slide 1-26	Thunder storm
Slide 1-27	Surf
Set of environmental habitat sounds	Set A - Marsh Set B - Airport Set C - Park Set D - Rural farm Set E - City street Set F - Woodland

④D

Me and my Environment

UNIT I
CORE A

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ➘ *in th* be prepared several days or weeks in advance. Use th a teaching and preparation schedule. All supplies ne

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed Materials You Furnish	Materials in Supply Kit	(*Italics*
1-8. Sounds Around Us	Glue or paste		Class supply
	Construction paper		Class supply
	Scissors		One pair per
Page _____	Magazines		Large variety
➘ Date planned _____	Tape of student activity		➘ *Prepared ear*
	Sound search cards		*3" X 5" inde* *described*
		Tape of Environmental Habitats	*Same tape as*
	Tape recorders		*Two recorders* *at least on*
		Camera (Polaroid Square Shooter)	
➘ 1-9. Sniffing Around	Half pint milk cartons		➘ *Fifteen - twe*
	Shoebox		*One*
	Hammer		*One*
Page _____	Nail		*One*
Date planned _____	Masking tape		*Roll*
	Cotton		*Small amount*
	Incense		*Small amount*
	Matches		*One book*
	Soap		*One bar*
	Polish remover		*Small amount*
	Paint		*Small amount*
	Banana peel		*One*
	Hair spray		*Small amount*
	Cabbage		*Small amount*
	Saurkraut		*Small amount*

PLANNING GUIDE

vities (*indicated in italics and an* ⬉ *in the margin*) must
ed several days or weeks in advance. Use this summary as
g and preparation schedule. All supplies needed are listed.

BSCS

Supplies Needed	
Materials in Supply Kit	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
	Class supply
	Class supply
	One pair per student -- include at least some left-handed scissors.
	Large variety with pictures
	➘ *Prepared earlier in Activity 1-2*
	3" X 5" index cards with search directions written on as described in the activity
Tape of Environmental Habitats	*Same tape as used in Activity 1-7*
	Two recorders would be ideal for this activity. Try to secure at least one extra one for this activity.
Camera (Polaroid Square Shooter)	
	➘ *Fifteen - twenty*
	One
	One
	One
	Roll
	Small amount
	Small amount
	One book
	One bar
	Small amount
	Small amount
	One
	Small amount
	Small amount
	Small amount

Me and my Environment

UNIT I
CORE A

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ☛ *in the m* be prepared several days or weeks in advance. Use this a teaching and preparation schedule. All supplies neede

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		*(Italics and*
	Materials You Furnish	Materials in Supply Kit	
1-9. Sniffing Around (Continued)	Oil of cloves		*Small amount*
	Oil of wintergreen		*Small amount*
	Garlic		*One*
	Onion		*One*
	Household ammonia		*Small amount*
	Sage		*Small amount*
	Spoiled food		*Small amount - c*
	Gasoline		*Small amount on*
	Chlorox		*Small amount*
	Orange peel		*One*
	Perfume		*Small amount*
	Rubbing alcohol		*Small amount*
	Hand lotion		*Small amount*
	35mm Slide projector		
		Worksheet 1-2	Smells In My Env
		Slide 1-28	Worksheet 1-2
1-10. A Strange Feeling	Sawdust		*Several handsful* *lumberyard.*
	Styrofoam cups or milk cartons		*18*
Page _____	Cornstarch		*Three or four bo*
Date planned _____	Water		*Supply of*
	Food coloring		*One set*
	Aluminum pie plates		*One per student*
	Large container		*One large enough*
	Tablespoon		*One*
		Graphite	*Enough to cover* *selected above*

PLANNING GUIDE

tivities (*indicated in italics and an* ➤ *in the margin*) must
red several days or weeks in advance. Use this summary as
ng and preparation schedule. All supplies needed are listed.

BSCS

Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	(*Italics and Arrow Indicate Advance Preparation Directions*)
	Small amount
	Small amount
	One
	One
	Small amount
	Small amount
	Small amount - cottage cheese, meat, milk, rotten potato
	Small amount on cotton
	Small amount
	One
	Small amount
	Small amount
	Small amount
Worksheet 1-2	Smells In My Environment
Slide 1-28	Worksheet 1-2
	Several handsful. Obtain from the school woodshop or local lumberyard.
	18
	Three or four boxes
	Supply of
	One set
	One per student
	One large enough to mix cornstarch with water
	One
Graphite	*Enough to cover the bottom of nine of the containers selected above*

④ F

Me and my Environment

UNIT I
CORE A

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ⬉ *in the* be prepared several days or weeks in advance. Use this a teaching and preparation schedule. All supplies need

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	(*Italics a*
1-11. Putting Yourself In The Picture Page ____ Date planned ____	35mm Slide projector	Worksheet 1-3 Slide 1-29 Slide 1-30	Senses Workshe Top Half of Wo Bottom Half of
1-12. An Animal Environment Page ____ Date planned ____		Worksheet 1-4 Slide 1-31 Slide 1-32	Review Of Succ Review of Succ Review Of Succ

PLANNING GUIDE

BSCS

activities (*indicated in italics and an* ➤ *in the margin*) must
epared several days or weeks in advance. Use this summary as
ching and preparation schedule. All supplies needed are listed.

of Supplies Needed		Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
	Materials in Supply Kit	
	Worksheet 1-3 Slide 1-29 Slide 1-30	Senses Worksheet Top Half of Worksheet 1-3 Bottom Half of Worksheet 1-3
	Worksheet 1-4 Slide 1-31 Slide 1-32	Review Of Success Review of Success Question 1 Review Of Success Question 2

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE A OBJECTIVES:

2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

MATERIALS

TEACHING STRATEGIES

Activity 1-1. An Animal In Class

The students will begin the year by selecting and caring for a classroom animal. In so doing, they will identify the needs of the animal and, as a result, should better understand their own needs. This activity will provide an opportunity for the students to develop a sense of responsibility, for the animal will be dependent upon them for adequate care.

OR THIS ACTIVITY

ognize the environmental components
ential for all living things.

ate a greater interest in, and a more
sitive attitude toward, his environment.

TIVES:

ntify a wide variety of things in his
ironment.

ntify some qualities that make environ-
ts alike or different.

ermine the relationship he has with
er living things.

fer the needs of plants and animals.

TEACHING STRATEGIES

Animal In Class

begin the year by selecting and caring
nimal. In so doing, they will identify
animal and, as a result, should better
own needs. This activity will provide
r the students to develop a sense of
or the animal will be dependent upon them
.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

ACTIVITY 1-1. AN ANIMAL IN CLASS

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have suggested a number of possible classroom animals.*
- *--have discussed the appropriateness of including various animals in the classroom.*
- *--have participated in choosing a classroom animal.*
- *--have participated in preparing a home for the animal.*
- *--have identified the animal's needs as those of water, food, space, and cleanliness.*
- *--have been assigned or volunteered duty in caring for the animal.*

MATERIALS

*Inappropriate cage (small cardboard box)
*Materials for students to construct a cage or a purchased cage
*Classroom animal

*Not furnished in materials kit

TEACHING STRATEGIES

Because of their nature, some animals are not wellsuited for use in a classroom. Suggest as choices only those animals which you can secure, maintain, and live with for the entire year. The animal will be utilized in subsequent activities and should be one that can be easily handled.

Possible animals for classroom:

Rabbit
Parakeet
Canary
Gerbil
Chameleon
Salamander
Guinea pig
Hamster
Snake
Ants**
Bees**
Crickets**
Mantis**
Fish**

As the students suggest possible animals, discuss them and determine as a class whether they would be appropriate or not. Through discussion you should be able to eliminate suggestions which are not appropriate and at the same time give the students an opportunity to have participated in the final choice.

Begin by saying:

> A VERY GOOD WAY TO START THE YEAR WOULD BE TO BRING SOMETHING LIVING INTO OUR CLASSROOM. DO YOU KNOW OF ANY LAND ANIMALS THAT WE MIGHT KEEP IN THE CLASSROOM?

**These animals will be difficult to use in later activities and are not recommended unless other animals are also present in the classroom.

TEACHING STRATEGIES

eir nature, some animals are not wellsuited
classroom. Suggest as choices only those
you can secure, maintain, and live with for
ar. The animal will be utilized in subse-
ies and should be one that can be easily

als for classroom:

Ants**
Bees**
Crickets**
Mantis**
n Fish**
ler
ig

ts suggest possible animals, discuss them and
a class whether they would be appropriate or
discussion you should be able to eliminate
hich are not appropriate and at the same time
ents an opportunity to have participated in
ice.

ng:

OOD WAY TO START THE YEAR WOULD BE TO
METHING LIVING INTO OUR CLASSROOM. DO
OF ANY LAND ANIMALS THAT WE MIGHT KEEP
LASSROOM?

ls will be difficult to use in later
and are not recommended unless other
also present in the classroom.

ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest any animals that could be kept in a classroom.

MATERIALS

TEACHING STRATEGIES

List the students' suggestions on the chalkboard and discuss each as to the availability, price, noise, size, amount of care needed, food, cage, etc. Remove from the list those that are rejected by the class because of their inappropriateness. Allow the students to select the class animal from the final list by a secret ballot or a show of hands.

OBTAIN TH

Purchase the animal, its food, and all the appropriate materials needed to construct the cage.

At the beginning of the next class period, have the animal in an inappropriate container which is too small, has too few openings for air, contains no food or water, has little light entering, and is empty except for the animal.

Place the animal in its inappropriate container where it is visible to all students. Allow them to examine and play with the animal as well as to examine the container.

Then say:

> WHAT SHALL WE NAME OUR ANIMAL?

Allow the class to name the animal. A naming contest, drawing suggestions from a hat, or any other method of choosing a name suggested by students could be used.

Once the name has been agreed upon, ask:

> WHERE SHALL WE KEEP (name of animal)?

During the discussion, it will probably be brought out that the present container is not a suitable place for the

NG STRATEGIES

stions on the chalkboard and
vailability, price, noise, size,
ood, cage, etc. Remove from the
cted by the class because of
Allow the students to select
e final list by a secret ballot

ANTICIPATED STUDENT BEHAVIORS

Students:

--choose a class animal.

OBTAIN THE ANIMAL

food, and all the appropriate
truct the cage.

next class period, have the animal
ainer which is too small, has too
ntains no food or water, has
nd is empty except for the animal.

inappropriate container where it
ts. Allow them to examine and
well as to examine the container.

OUR ANIMAL?

the animal. A naming contest,
a hat, or any other method of
d by students could be used.

greed upon, ask:

(name of animal)?

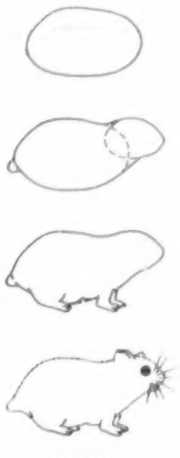
t will probably be brought out
er is not a suitable place for the

--suggest and choose a name for their animal.

--suggest various places to keep the animal.

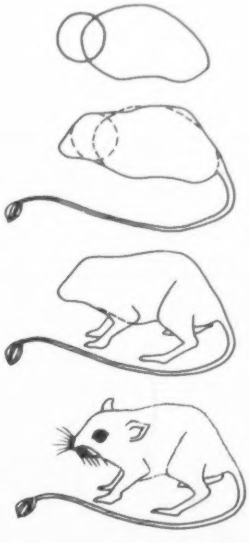
MATERIALS

Diagram 1-1



Hamster

Diagram 1-2



Gerbil

TEACHING STRATEGIES

animal. If not, ask the class if they think that the container is a good home by saying:

> DO YOU THINK THIS IS A GOOD HOME FOR THIS ANIMAL?
>
> WHY ISN'T THIS A GOOD PLACE FOR (name of animal)?
>
> COULD WE MAKE A BETTER PLACE FOR (name of animal)?

If the new cage can be quite easily constructed, and the students are interested in doing so, encourage them to organize construction teams. Furnish the materials and allow them to construct the cage. However, if this is going to take more than one day, do not forget to care for the animal.

When a cage is purchased, or when the cage construction is finished, continue with the following sequence.

> WHY IS THIS BETTER TO KEEP (name of animal) IN THAN THE FIRST ONE?

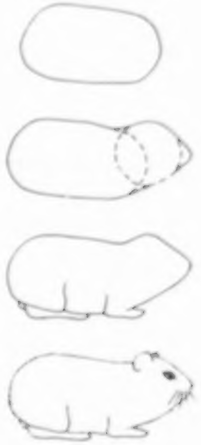
Have a student place the animal in the new cage and ask:

> WHAT ELSE DOES (name of animal) NEED IN THE CAGE WITH IT?
>
> WHAT DOES (name of animal) EAT?
>
> WHAT DOES (name of animal) DRINK?

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
he class if they think that the me by saying:	
IS A GOOD HOME FOR THIS	--respond, "Yes," "No."
GOOD PLACE FOR (name of animal)?	--respond, "It's too crowded," "It needs air," "It needs light," "It needs a bed," etc.
ETTER PLACE FOR (name of animal)?	--respond, "Yes," "Maybe," "I guess so," "We could try."
quite easily constructed, and the d in doing so, encourage them to teams. Furnish the materials and t the cage. However, if this is n one day, do not forget to care	
sed, or when the cage construction is h the following sequence.	
ER TO KEEP (name of animal) IN E?	--infer the life needs related to space and make comments such as, "It's bigger," "More air," "More space to move in."
he animal in the new cage and ask:	
name of animal) NEED IN THE	--respond, "Water," "Something to eat," "A place to sleep," etc.
f animal) EAT?	--respond, "Don't know," "Lettuce," "Bird food," etc.
f animal) DRINK?	--respond, "Water."

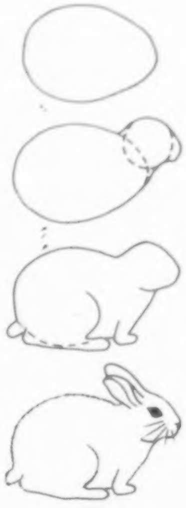
MATERIALS

Diagram 1-3



Guinea pig

Diagram 1-4



Rabbit

TEACHING STRATEGIES

IS THERE ANYTHING ELSE BESIDES FEEDING AND WATERING THAT WE MUST DO FOR (name of animal)?

Organize the class into three groups and set up a schedule to take care of the animal.

HAV
INV
ALL
STUD

Group 1. Purchasing food and other supplies needed for the animal.

Group 2. Feeding and watering the pet.

Group 3. Cleaning the animal's cage.

Each student member of a group should have a week or day in which his responsibility is caring for the pet. The responsibilities should rotate from group to group throughout the year.

Suggested extensions:

1. Many easy-reading children's books are available on the care of animals and particularly those animals common as household pets. You may wish to obtain such a book to read and discuss with your students.
2. Students might enjoy keeping a record of their pet's behavior throughout the year. They could do this by drawing pictures of the animal or using the camera to take pictures of the animal from time to time.

ACHING STRATEGIES

ING ELSE BESIDES FEEDING AND
WE MUST DO FOR (name of animal)?

into three groups and set up a schedule
animal.

HAVE YOU INVOLVED ALL STUDENTS?

ing food and other supplies needed
animal.

and watering the pet.

g the animal's cage.

of a group should have a week or day
sibility is caring for the pet. The
ould rotate from group to group
.

s:

ng children's books are available on
mals and particularly those animals
hold pets. You may wish to obtain
read and discuss with your students.

enjoy keeping a record of their pet's
hout the year. They could do this by
s of the animal or using the camera
s of the animal from time to time.

ANTICIPATED STUDENT BEHAVIORS

Student:

--respond, "Clean his cage," "Give him air," "Love him."

MATERIALS

TEACHING STRATEGIES

See Diagrams 1-1 through 1-4 to assist you and your students if you attempt to draw the pet. This would be an excellent art lesson for your students.

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
rough 1-4 to assist you and your empt to draw the pet. This would be an n for your students.	

UNIT I, CORE A
ACTIVITY 1-1: "An Animal in Class"

Activity name suggested by class:

Teacher
BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

BSCS Evaluation: **EMH Feedback Form 1c**

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

---

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did students have difficulty determining the needs of animals?
☐ No ☐ Yes: Comment.

18. What is your classroom animal? ______________________________
Has it presented any problems thus far as a classroom pet?

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT 1, CORE A
ACTIVITY 1-1: "An Animal In Class"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. **Whenever practical write all over your second copy of the Guide.** Tear out the **activity and send the annotated** Guide in with this form.
2. **Make specific suggestions - exactly what you think should appear in the** Guide.
3. **Tell us what you did.** Think of what you needed, what you had to work out for **yourself, how you presented** something to make it go over.
4. **Describe the revisions you said were needed** in answering the questions on the **other side of this form.**
5. **As a reminder of things that** help in revision, read through the following list **and check off things you want to** be sure to note this time. (We know you can't **tell about everything every time!)**

THE LESSON

☐ **how you organized materials or class.**
☐ **things added (a question, a picture, etc.).**
☐ **equipment, supplies, visual aids.**
☐ **things that went wrong, misunderstandings.**
☐ **what you would do differently
or avoid next time.**
☐ **turmoil in the class caused by the activity,** or disruptive students, or interruptions, **and how you dealt with them.**

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or
applying ideas.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE A OBJECTIVES:

2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

MATERIALS

TEACHING STRATEGIES

Activity 1-2. A Pond In The Classroom

Students have already secured a land animal to serve as a part of their class environment for the year. In this activity, they will establish an aquatic environment containing aquatic animals and plants. In so doing they will identify the components which are essential for this group of living things. The student's understanding of his own needs will be reinforced and at the same time an additional measure of responsibility in caring for something will be provided.

HIS ACTIVITY

ize the environmental components
ial for all living things.

a greater interest in, and a more
ive attitude toward, his environment.

ES:

fy a wide variety of things in his
nment.

fy some qualities that make environ-
alike or different.

ine the relationship he has with
living things.

the needs of plants and animals.

CHING STRATEGIES

d In The Classroom

y secured a land animal to serve as
s environment for the year. In
will establish an aquatic environ-
tic animals and plants. In so doing
he components which are essential for
things. The student's understanding
l be reinforced and at the same time
e of responsibility in caring for
ovided.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

ACTIVITY 1-2. A POND IN THE CLASSROOM

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have distinguished between land animals and water animals.*
- *--have participated in deciding what living things to put into the pond.*
- *--have participated in deciding where to get the pond plants and animals.*
- *--have participated in preparing the pond.*
- *--have been assigned or volunteered duty in caring for and maintaining the pond.*

ACTIVITY 1-2
⑫

MATERIALS

*Container suitable for a pond or aquarium, i.e., hard plastic kiddie pool 3 1/2' X 3 1/2', baby bathtub, concrete or mortar mixing tub
*Sand to cover the bottom of the chosen container
*Pond animals
*Food - suitable for animals selected (consult your local pet store)
*Rock(s)
*Weighted, floating thermometer (optional)
*Pond plants

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Several days will be needed in order to set up a pond community. A pond is recommended because it is easy to care for and less expensive to maintain, although an aquarium would also be satisfactory. The larger the pond the easier it is to maintain. Because of its size and shape, a pond requires less care than an aquarium. The relatively shallow depth and large surface area eliminates the need for an aerator. If, however, another container is more suitable for your situation, use it and tell us about it.

2. There are many possible animals that could be included in the pond. Salamanders, tadpoles, minnows, turtles, tropical fish (guppies, platties, gouramis), native local fish, and scavengers (crawdads, snails, bottom feeders) are some of the animals that are easiest to care for and most suitable for classroom pond life.

3. In choosing plants for the pond, the water temperature and available light source must be considered If you have any doubts as to which plants to choose, consult the biology teacher in your school or the dealer of a local pet shop. Narrow Sagittaria, Hornwart, Cabomba (Washington Grass), Vallisneria (Tape Grass) and Myriophyllum (Foxtail) are some plants that might be obtained most easily and are suitable for a classroom pond.

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
ill be needed in order to set up a . A pond is recommended because it e for and less expensive to maintain, uarium would also be satisfactory. pond the easier it is to maintain. size and shape, a pond requires an aquarium. The relatively and large surface area eliminates n aerator. If, however, another ore suitable for your situation, l us about it. possible animals that could be e pond. Salamanders, tadpoles, es, tropical fish (guppies, amis), native local fish, and awdads, snails, bottom feeders) e animals that are easiest to ost suitable for classroom pond ants for the pond, the water temper- ilable light source must be considered. y doubts as to which plants to lt the biology teacher in your dealer of a local pet shop. aria, Hornwart, *Cabomba* (Washington *sneria* (Tape Grass) and *Myriophyllum* some plants that might be obtained nd are suitable for a classroom pond.	

MATERIALS

TEACHING STRATEGIES

4. The following is a suggested sequence for sett
   up the pond:

   a. Purchase a hard plastic kiddie pool approx
      mately 3 1/2' X 3 1/2' in size. (Use a
      substitute container such as a plastic bab
      bathtub, plastic concrete mixer, or an
      aquarium only if you do not have space for
      the kiddie pool.)

   b. Cover the bottom with about 1" to 2" of cl
      rinsed sand.

   c. Place a large rock which protrudes above t
      water near the center of the pond so that
      frogs, toads, and turtles can get up and o
      of the water occasionally.

   d. Add water from the tap to a level of about
      3 1/2" from the top. Let the water set fo
      at least twenty-four hours before introduc
      any living things. If this is not done, t
      chlorine in the water may harm the plants
      animals added.

   e. Consult the suggested list of living thing
      and have students help in deciding what to
      put in the pond. If there is a natural po
      nearby, this can be an excellent source fo
      collecting living things. The pond should
      have a combination of plants and animals,
      including fish, turtles, and scavengers.
      (Scavengers such as snails, tropical catfi
      or crawdads are necessary to keep the pond
      clean.)

   f. Pet shops generally put the snails, fish a
      other animals in plastic bags filled with

TEACHING STRATEGIES

ing is a suggested sequence for setting
d:

se a hard plastic kiddie pool approxi-
3 1/2' X 3 1/2' in size. (Use a
tute container such as a plastic baby
, plastic concrete mixer, or an
um only if you do not have space for
ddie pool.)

he bottom with about 1" to 2" of clean,
sand.

large rock which protrudes above the
ear the center of the pond so that any
toads, and turtles can get up and out
water occasionally.

ter from the tap to a level of about
from the top. Let the water set for
st twenty-four hours before introducing
ving things. If this is not done, the
ne in the water may harm the plants or
added.

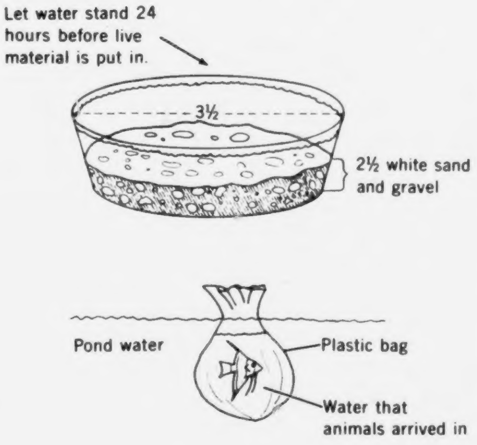
t the suggested list of living things
ve students help in deciding what to
the pond. If there is a natural pond
, this can be an excellent source for
ting living things. The pond should
combination of plants and animals,
ing fish, turtles, and scavengers.
ngers such as snails, tropical catfish
wdads are necessary to keep the pond
)

ps generally put the snails, fish and
nimals in plastic bags filled with

ANTICIPATED STUDENT BEHAVIORS

MATERIALS

Diagram 1-5


Let water stand 24 hours before live material is put in.
3½
2½ white sand and gravel
Pond water
Plastic bag
Water that animals arrived in

TEACHING STRATEGIES

water. Float these bags in the pool for about thirty minutes. (See Diagram 1-5.) This will allow the animals to adjust gradually to the temperature and other conditions in the pond.

g. If tropical fish are put in the pond, the water temperature should not go below 65°. A weighted, floating thermometer would be useful as a constant check.

h. Do not overstock the pond. A general rule is to allow five square inches of surface area per adult fish (1" long). Multiply the diameter of the pond by 22/7 and divid by 5. As an example: for a pool 3 1/2' in diameter, 22/7 x 42" = 132 square inches, divided by 5 equals 26 -- the pond in large enough for 26 fish.

i. If living things from a natural pond or stream are combined with animals from a pe shop, isolate them in a salt water solutio (1 tsp./gal.) overnight to kill any parasi attached to them before placing them in th classroom pond.

Because of their nature, some animals are not wellsu for a classroom pond. Suggest as choices only anima which you can secure, maintain, and live with for th year.

NOTE: *At a point in this activity when many student are involved, or upon entering or leaving the room, tape-record the sounds in the room for a five-minute period. Make sure that student are unaware of the recording. Save the tape for use in Activity 1-7.*

NG STRATEGIES

these bags in the pool for
inutes. (See Diagram 1-5.)
w the animals to adjust
he temperature and other
the pond.

sh are put in the pond, the
ure should not go below 65°.
oating thermometer would be
nstant check.

ck the pond. A general rule
ve square inches of surface
fish (1" long). Multiply
f the pond by 22/7 and divide
xample: for a pool 3 1/2'
2/7 x 42" = 132 square
d by 5 equals 26 -- the
enough for 26 fish.

gs from a natural pond or
bined with animals from a pet
them in a salt water solution
overnight to kill any parasites
em before placing them in the
.

some animals are not wellsuited
uggest as choices only animals
intain, and live with for the

s activity when many students
upon entering or leaving the
the sounds in the room for
iod. Make sure that students
e recording. Save the tape
ty 1-7.

ANTICIPATED STUDENT BEHAVIORS

MATERIALS	TEACHING STRATEGIES
	Ask the students to suggest possible plants and animals to include in the pond. Discuss them and determine as a class whether they would be appropriate or not. Through discussion you should be able to eliminate suggestions which are not appropriate and still have the students feel that the class has participated in making the final choice. If the students are not familiar with pond plants and animals suggest some plants and animals to include and explain what they are and why they would be appropriate for the pond. Begin by saying: WHAT LIVING THING HAS MOVED INTO OUR CLASSROOM? WHERE DID (name of animal) LIVE BEFORE COMING TO LIVE WITH US? If students respond with "the pet store," ask: IF (name of animal) LIVED OUTSIDE, OR IN HIS NATURAL HOME, WHERE WOULD HE LIVE? Continue by saying: OUR ANIMAL WOULD LIVE ON THE LAND IN THE (name of the animal's natural habitat). DO ALL ANIMALS LIVE ON THE LAND? IF THEY DON'T LIVE ON THE LAND, WHERE WOULD THEY LIVE? WHERE ARE SOME OF THE PLACES THAT YOU CAN FIND ANIMALS LIVING IN THE WATER?

IG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
est possible plants and animals Discuss them and determine as a be appropriate or not. Through able to eliminate suggestions e and still have the students participated in making the final are not familiar with pond st some plants and animals to they are and why they would be .	Students:
AS MOVED INTO OUR CLASSROOM?	--respond with the name of the classroom animal chosen in Activity 1-1.
animal) LIVE BEFORE COMING	--respond, "Pet store," "Forest," "Fields," "Trees."
"the pet store," ask: LIVED OUTSIDE, OR IN HIS WOULD HE LIVE?	--respond, "Forest," "Fields," "Trees," "Underground," "Land."
. VE ON THE LAND IN THE (name ural habitat). DO ALL ANIMALS	--respond, "No."
ON THE LAND, WHERE WOULD THEY	--respond, "Water," "Air."
HE PLACES THAT YOU CAN FIND HE WATER? . .	--respond, "Lake," "River," "Stream," "Pond."

MATERIALS

TEACHING STRATEGIES

WOULD IT BE POSSIBLE TO BRING ONE OF THESE PLACES INTO OUR CLASSROOM SO WE COULD WATCH SOME WATER ANIMALS?

LET'S SEE IF WE CAN THINK OF A WAY TO BUILD A POND AND PUT WATER PLANTS AND ANIMALS IN IT.

IF WE COULD DO WHAT WE WANTED TO, WHAT ARE SOME WAYS WE MIGHT BUILD A POND IN CLASS?

GIVE ST
TIME
TO
THINK

ACCEPT AL
ENCOURAGE I

List all the major suggestions given on the chalkboard and discuss each as to its appropriateness and feasibility. If students have difficulty coming up with any suggestions, offer a few ideas of your own and encourage discussion.

Then say:

> OTHER GROUPS OF STUDENTS IN OTHER SCHOOLS HAVE HAD GREAT SUCCESS IN BUILDING A POND USING A KIDDIE PLASTIC SWIMMING POOL (or substitute whatever container you used). SINCE THIS IS THE RIGHT SIZE (still referring to your choice of container) AND EASY TO GET, WE WILL USE ONE IN BUILDING OUR POND TOO.

HING STRATEGIES

IBLE TO BRING ONE OF THESE
CLASSROOM SO WE COULD WATCH
LS?

CAN THINK OF A WAY TO BUILD
ATER PLANTS AND ANIMALS IN IT.

HAT WE WANTED TO, WHAT ARE
T BUILD A POND IN CLASS?

GIVE STUDENTS
TIME
TO
THINK

ACCEPT ALL IDEAS AND
ENCOURAGE IMAGINATION

ggestions given on the chalkboard and
s appropriateness and feasibility. If
ity coming up with any suggestions,
your own and encourage discussion.

STUDENTS IN OTHER SCHOOLS HAVE
S IN BUILDING A POND USING A
WIMMING POOL (or substitute
er you used). SINCE THIS IS
still referring to your choice
O EASY TO GET, WE WILL USE
UR POND TOO.

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No," "We'd have to flood the room," "Impossible," "Maybe."

--suggest a variety of ideas, some of which might include a swimming pool, bowl, tub, aquarium, jar, etc. Some students might still think it's impossible to put a pond in their room.

MATERIALS

TEACHING STRATEGIES

Let several students set up the pool (aquarium, etc.) and fill it with water. Say:

> WE WILL ALLOW THE WATER TO STAND AT LEAST TWENTY-FOUR HOURS BEFORE WE ADD ANYTHING.
>
> HOW MANY OF YOU HAVE MADE A PLACE FOR WATER ANIMALS AND PLANTS TO LIVE AT YOUR HOME?
>
> FINE. CAN YOU TELL US WHY THE WATER MUST STAND A WHILE BEFORE WE USE IT FOR OUR WATER ANIMALS?

> If pupils do not know about the presence of chlorine as a purifying agent in water, explain that the water we drink or swim in is treated with the chemical chlorine to make it safe. Ask:
>
> HAVE ANY OF YOU NOTICED THE SMELL OF THE WATER AT A SWIMMING POOL? THAT SMELL IS SOME OF THE CHLORINE COMING OUT OF THE WATER INTO THE AIR. WATER WITH CHLORINE IS NOT SAFE FOR WATER ANIMALS TO LIVE IN. IF WE LET THE WATER STAND FOR SEVERAL HOURS, THE CHLORINE WILL LEAVE THE WATER. IT WILL THEN BE SAFE FOR OUR WATER ANIMALS. LETTING THE WATER STAND AND PUTTING SAND IN THE CONTAINER WILL MAKE THIS ARTIFICAL POND MORE LIKE A REAL POND. THE AREA AND SETTING IN WHICH AN ANIMAL LIVES IS CALLED ITS HABITAT.

Write the word "habitat" on the chalkboard and say:

> THUS WE HAVE CREATED A POND HABITAT FOR ANY ANIMALS WE THINK SHOULD LIVE IN THE POND.

HING STRATEGIES

et up the pool (aquarium, etc.)
. Say:

WATER TO STAND AT LEAST
BEFORE WE ADD ANYTHING.

AVE MADE A PLACE FOR WATER
S TO LIVE AT YOUR HOME?

LL US WHY THE WATER MUST
ORE WE USE IT FOR OUR WATER

not know about the presence of
a purifying agent in water,
the water we drink or swim in
ith the chemical chlorine to
. Ask:

YOU NOTICED THE SMELL OF THE
WIMMING POOL? THAT SMELL IS
CHLORINE COMING OUT OF THE
HE AIR. WATER WITH CHLORINE
FOR WATER ANIMALS TO LIVE IN.
E WATER STAND FOR SEVERAL
HLORINE WILL LEAVE THE WATER.
BE SAFE FOR OUR WATER ANIMALS.
WATER STAND AND PUTTING SAND IN
R WILL MAKE THIS ARTIFICAL POND
REAL POND. THE AREA AND SETTING
ANIMAL LIVES IS CALLED ITS HABITAT.

t" on the chalkboard and say:

TED A POND HABITAT FOR ANY
SHOULD LIVE IN THE POND.

ANTICIPATED STUDENT BEHAVIORS

Students:

--show hands.

--respond, "No," "To make water pure," "To let water warm up," "I don't know."

ACTIVITY 1-2

⑱

MATERIALS

TEACHING STRATEGIES

> WHAT DO WE PUT IN THE POND AND WHERE DO WE GET THE THINGS TO PUT IN?
>
> IF WE WANTED TO HAVE OUR POND BE AS MUCH AS POSSIBLE LIKE A REAL POND, WHERE WOULD BE THE BEST PLACE TO GET THE PLANTS AND ANIMALS?
>
> > If there is no pond nearby, ask:
> >
> > SINCE THERE IS NO REAL POND NEARBY, WHERE WOULD BE THE SECOND BEST PLACE TO GET SOME PLANTS AND ANIMALS FOR OUR POND?

Select a collection committee to obtain the plants and animals from a pond, or tell the students you will purchase them from a pet store. Then say:

> WE'VE DECIDED HOW TO MAKE A POND IN OUR CLASSROOM AND WHERE TO GET SOME PLANTS AND ANIMALS TO PUT INTO THE POND. BUT WE HAVE ONE MORE PROBLEM. WHAT KINDS OF WATER PLANTS AND ANIMALS SHOULD WE GET?

List all the suggestions given on the chalkboard including your own if you wish. Discuss each animal or plant mentioned using these and/or similar questions:

> IS IT A POND ANIMAL?
>
> WILL IT HURT THE OTHER ANIMALS?
>
> DOES IT HELP KEEP THE POND CLEAN?
>
> WILL IT JUMP OUT AND GET AWAY?

St

--

--

--

--

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
IN THE POND AND WHERE DO WE TO PUT IN?	--suggest getting fish, snails, plants etc. from a store, a pond, stream, lake, or local water hole.
O HAVE OUR POND BE AS MUCH AS A REAL POND, WHERE WOULD BE THE GET THE PLANTS AND ANIMALS?	--respond by suggesting that the plants and animals be obtained from a real pond.
is no pond nearby, ask: RE IS NO REAL POND NEARBY, WHERE THE SECOND BEST PLACE TO GET SOME D ANIMALS FOR OUR POND?	--suggest purchasing them from a pet store.
committee to obtain the plants and , or tell the students you will a pet store. Then say: HOW TO MAKE A POND IN OUR WHERE TO GET SOME PLANTS AND INTO THE POND. BUT WE HAVE LEM. WHAT KINDS OF WATER IMALS SHOULD WE GET?	--suggest getting a variety of plants and animals for the pond such as guppies, goldfish, snails, frogs, toads, turtles, weeds, etc.
tions given on the chalkboard if you wish. Discuss each animal or ing these and/or similar questions: NIMAL? HE OTHER ANIMALS? EEP THE POND CLEAN? UT AND GET AWAY?	

MATERIALS	TEACHING STRATEGIES
	This would be a good chance to give the students information about pond animals such as scavengers, and about the names, habits, and care of fish they are unfamiliar with. There are many simple books available from pet shops or bookstores that you might find helpful. Using the calculation given at the beginning of the activity, determine the proper number of fish to include, and have the students select the kinds and number of animals and plants for their pond. Purchase or collect the suggested living things, the appropriate food, and all materials needed to put in the pond. If possible, have one or more students accompany you to the store to assist in the purchase. The clerk may have some suggestions also. PURCHASE COLLECTION Place the container and all materials purchased and gathered where they are visible and allow all students to observe and examine them. Do not have the plants and animals in the pond. The students should participate in the assembly of the pond as much as possible. Now have the students assist you in preparing the pond and placing the living things in it following the suggested sequence in the Teacher Preparation. When the living things have been placed in the pond, ask: WHAT WILL WE HAVE TO DO TO TAKE CARE OF OUR NEW ANIMALS? WHAT KIND OF FOOD DO THEY NEED?

IG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
nce to give the students informa- such as scavengers, and about the of fish they are unfamiliar with. oks available from pet shops or t find helpful.	
ven at the beginning of the proper number of fish to include, lect the kinds and number of heir pond.	
suggested living things, the l materials needed to put in the one or more students accompany st in the purchase. The clerk s also.	
PURCHASE OR COLLECTION TIME	
all materials purchased and visible and allow all students hem. Do not have the plants and e students should participate ond as much as possible.	
sist you in preparing the pond hings in it following the e Teacher Preparation.	--place animals and plants carefully in the pond.
ave been placed in the pond, ask:	
O DO TO TAKE CARE OF OUR	--respond, "Feed them," "Clean the pond and the water."
O THEY NEED?	--respond, "Don't know," "Fish food," "Turtle food," etc.

MATERIALS

TEACHING STRATEGIES

IF WE DON'T KNOW WHAT THEY EAT, HOW CAN WE FIND OUT?

If some students mention cleaning or changing the water, point out that the scavengers do this for them. If the right kinds and numbers of animals have been selected to begin with the pond should stay clean.

HOW IS TAKING CARE OF THESE WATER ANIMALS LIKE TAKING CARE OF OUR LAND ANIMAL?

HOW IS TAKING CARE OF THEM DIFFERENT?

Select a student to take a picture of the completed pond. Students may want to write a story or keep a log to go with the picture.

From time to time we will request a number of pictures to provide to the Polaroid Corporation to illustrate how their cameras were used in this curriculum.

Organize the class into groups and set up a schedule for care of the pond. Do this in a manner similar to the schedule set up for the land animal. The responsibilities should be to:

1. Purchase food and other supplies needed for the animals.

2. Feed the animals. (Be careful not to overfeed.)

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
W WHAT THEY EAT, HOW CAN WE	--respond, "Look in books," "Ask at the pet shop," "Ask the science teacher," etc.
tion cleaning or changing the water, cavengers do this for them. If the ers of animals have been selected to should stay clean.	
ARE OF THESE WATER ANIMALS E OF OUR LAND ANIMAL?	--respond, "Both need food, air, water," etc.
ARE OF THEM DIFFERENT?	--respond, "You have to clean the cage of the land animal, and the pond will take care of itself," "You have to give the land animal water each day," etc.
ake a picture of the completed pond. write a story or keep a log to go	
will request a number of pictures to oid Corporation to illustrate how their this curriculum.	
nto groups and set up a schedule for o this in a manner similar to the he land animal. The responsibilities	
d other supplies needed for the	
. (Be careful not to overfeed.)	

MATERIALS	TEACHING STRATEGIES
	3. Keep water set aside for maintaining the water level. This should be tap water that has been allowed to sit for at least twenty-four hours so that it loses its chlorine. If you wish to use tap water immediately you may add a dechlorinating chemical obtained from any local pet store. It is an unnecessary expense, however, if you have enough room to allow the necessary quantity of water to stand for the twenty-four hour period.

EACHING STRATEGIES

aside for maintaining the water hould be tap water that has been for at least twenty-four hours es its chlorine. If you wish to immediately you may add a dechlorinating ned from any local pet store. It is expense, however, if you have enough the necessary quantity of water to stand -four hour period.

ANTICIPATED STUDENT BEHAVIORS

UNIT I, CORE A

ACTIVITY 1-2: "A Pond In The Classroom"

Teacher

BSCS USE: Post ____ Tally ____ Rev ___

Activity name suggested by class:

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

Materials used:	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

8. Materials used:

	Worksheet			Game	Slides (show	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did students understand the reason for setting the water aside before using it in the pool? ☐ Yes ☐ No: Comment.

18. Were students knowledgeable enough to recommend plants and animals for the class pond?
☐ Yes ☐ No: Comment.

19. Did students help assemble the class pond?
☐ Yes ☐ No
If so, in what ways? If not, why not?

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A
ACTIVITY 1-2: "A Pond In The Classroom"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.

MATERIALS

TEACHING STRATEGIES

Activity 1-3. Taking A Closer Look

This activity will briefly introduce and define the word environment and then allow the student to begin carefully exploring his environment through the use of his senses. Experiences for providing the student with the opportunity to extend his powers of observation are included. The student will realize that many interesting details are discovered when something is examined carefully with a magnifier.

ACTIVITY

is immediate environment through
of sensory experiences and
contacts.

greater interest in, and a more
attitude toward, his environment.

e use of his senses.

a wide variety of things in his
nt.

ome qualities that make environ-
ke or different.

ING STRATEGIES

Closer Look

fly introduce and define the word
low the student to begin carefully
nt through the use of his senses.
ng the student with the opportunity
observation are included. The
at many interesting details are
ng is examined carefully with a

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-3. TAKING A CLOSER LOOK

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have suggested a definition of the word environment.*
- *--be able to define environment as, "Things around me."*
- *--have participated in the observation box game.*
- *--have helped to complete Worksheet 1-1.*
- *--have identified the five senses.*
- *--have learned to use the magnifier as a tool for observation.*
- *--have discovered that objects display more varied and interesting characteristics when examined more closely.*
- *--have had an opportunity to take a magnifier home and use it.*

ACTIVITY 1-3

MATERIALS

Worksheet 1-1
Slide 1-1
- *Large shoeboxes (opaque with lids) one for each team
- *Collection of items for the shoeboxes:
  - *6 rocks (rough, smooth, flat, round, large, small)
  - *4 twigs - fresh, dried (variety)
  - *2 shells
  - *4 leaves - different shapes, sizes, fresh, dried
  - *Piece of weathered wood

Magnifying lenses
- *Stopwatch or watch with second hand
- *35mm Slide projector

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Each team will need a large shoebox containing the collection of objects listed in the materials column. (Revise the list according to the availability of the items.) It is important that the contents of each box be identical. Have these prepared prior to class time.

2. Since the students will be given specified times for observation, you will need a stop watch, clock, or a watch with a second hand.

Write "environment" on the chalkboard and ask:

> HOW MANY OF YOU HAVE EVER HEARD OF THIS WORD?

Point to and pronounce the word "environment."

> SOME OF YOU MIGHT HAVE HEARD THIS WORD ON TV OR ON THE RADIO. WHAT DO YOU THINK IT MEANS?

As meanings for the word are suggested write them on the chalkboard. Do not reinforce any of the suggestions or give the meaning of environment at this time.

St

CAMERA T

TEACHING STRATEGIES

ration:

am will need a large shoebox containing the
ion of objects listed in the materials
 (Revise the list according to the
ility of the items.) It is important
contents of each box be identical. Have
repared prior to class time.

he students will be given specified times for
tion, you will need a stop watch, clock, or a
ith a second hand.

nment" on the chalkboard and ask:

OF YOU HAVE EVER HEARD OF THIS WORD?

ronounce the word "environment."

OU MIGHT HAVE HEARD THIS WORD ON
THE RADIO. WHAT DO YOU THINK
?

.

or the word are suggested write them on the
o not reinforce any of the suggestions
eaning of environment at this time.

CAMERA TIME

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond by raising hands if they recognize the word.

--suggest various meanings of the word which might include such things as, "Pollution," "Everything," "Plants and animals."

MATERIALS

TEACHING STRATEGIES

Have students in groups of threes take a picture of a scene that they think will help define their environment. Hold a class discussion in which pupils can tell the feature of his environment that the picture shows.

Have pupils label photos. Store them for use later on in this activity.

After all the photographic scenes have been discussed, continue by saying:

> THE WORD ENVIRONMENT MEANS THINGS AROUND US THAT WE SEE, SMELL, HEAR, TOUCH, OR TASTE. MANY PEOPLE ARE CONCERNED ABOUT WHAT'S HAPPENING TO OUR ENVIRONMENT. YOU AND I MAY FIND THAT WE ARE OR ARE NOT CONCERNED ABOUT IT, BUT BEFORE WE CAN DECIDE WE NEED TO KNOW MORE ABOUT WHAT OUR ENVIRONMENT IS.
>
> WHAT'S HAPPENING TO OUR ENVIRONMENT THAT CAUSES MANY PEOPLE TO BE WORRIED OR CONCERNED?

Because of the treatment and widespread use of the word "environment" by the media, a few students should be able to suggest such things as pollution as reasons for concern.

> PERHAPS IF WE LEARN MORE ABOUT OUR ENVIRONMENT WE WILL BE BETTER ABLE TO TAKE CARE OF IT PROPERLY.
>
> WHAT WOULD YOU DO IF I ASKED YOU TO USE YOUR SENSES TO FIND OUT ABOUT YOUR ENVIRONMENT?
>
> WHAT ARE SENSES?

ACHING STRATEGIES

roups of threes take a picture of a
ink will help define their environment.
ssion in which pupils can tell the
ironment that the picture shows.

hotos. Store them for use later on

ographic scenes have been discussed,
:

RONMENT MEANS THINGS AROUND US
SMELL, HEAR, TOUCH, OR TASTE.
RE CONCERNED ABOUT WHAT'S
UR ENVIRONMENT. YOU AND I MAY
ARE OR ARE NOT CONCERNED ABOUT
E WE CAN DECIDE WE NEED TO KNOW
AT OUR ENVIRONMENT IS.

ING TO OUR ENVIRONMENT THAT
EOPLE TO BE WORRIED OR CONCERNED?

atment and widespread use of the word
he media, a few students should be
ch things as pollution as reasons for

LEARN MORE ABOUT OUR ENVIRONMENT
TTER ABLE TO TAKE CARE OF IT

U DO IF I ASKED YOU TO USE YOUR
D OUT ABOUT YOUR ENVIRONMENT?

ES?

ANTICIPATED STUDENT BEHAVIORS

Students:

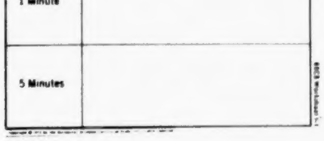
--draw on prior experience and suggest, "Pollution," "Too crowded," "Dirty water."

--respond, "Smell," "Look," "Touch," etc.

--will probably have previously studied the senses and respond with eyes, ears, nose, tongue, fingers or smell, see, hear, touch and taste.

MATERIALS

Worksheet 1-1



Date Name

	Things Seen
5 Seconds	
10 Seconds	
1 Minute	
5 Minutes	

TEACHING STRATEGIES

> LET'S BEGIN BY USING OUR SIGHT, OUR EYES, TO LOOK MORE CLOSELY AT OUR ENVIRONMENT.
>
> HOW LONG DOES IT TAKE YOU TO REALLY SEE SOMETHING AROUND YOU IN YOUR ENVIRONMENT?
>
> LET'S FIND OUT.

Now divide the class into teams of three and place the closed boxes on a table at the front of the room.

Then say:

> WE ARE GOING TO PLAY AN OBSERVATION GAME USING THESE BOXES. (Point to the boxes.) IT IS VERY IMPORTANT TO KEEP THE BOXES CLOSED UNTIL WE ARE READY TO BEGIN.

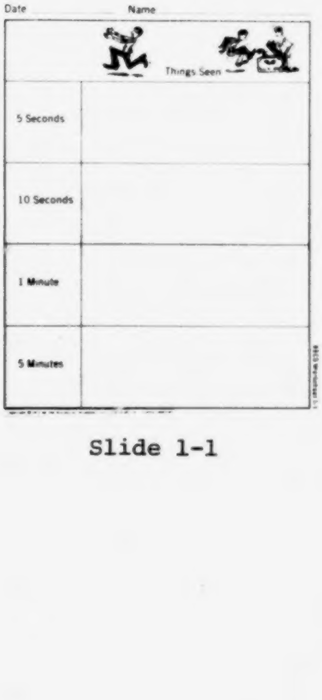
Now distribute Worksheet 1-1 to each team.

> IN THIS GAME YOU WILL HAVE A CERTAIN AMOUNT OF TIME TO LOOK AT THE THINGS IN YOUR BOX. WHEN I SAY "OPEN" ONE TEAM MEMBER WILL OPEN THE BOX AND EACH OF YOU WILL LOOK CAREFULLY AT WHAT IS IN THE BOX. IT IS IMPORTANT THAT EACH OF YOU LOOK BECAUSE YOU ARE ALL WORKING TOGETHER AS PART OF A TEAM AND WILL BE HELPING EACH OTHER TO WIN.
>
> AT THE END OF THE TIME I WILL SAY "STOP." ONE PERSON MUST THEN QUICKLY CLOSE THE BOX. IT IS IMPORTANT THAT YOU CLOSE IT IMMEDIATELY. AFTER IT HAS BEEN CLOSED, WE WILL FILL OUT THE FIRST ROW OF OUR WORKSHEET.

Instruct students to look at their worksheets.

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
NG OUR SIGHT, OUR EYES, TO AT OUR ENVIRONMENT.	
AKE YOU TO REALLY SEE OU IN YOUR ENVIRONMENT?	--suggest, "A few minutes," "A long time," "A second," "Not very long."
to teams of three and place the at the front of the room.	
AY AN OBSERVATION GAME USING nt to the boxes.) IT IS VERY THE BOXES CLOSED UNTIL WE ARE	
t 1-1 to each team.	
ILL HAVE A CERTAIN AMOUNT THE THINGS IN YOUR BOX. ONE TEAM MEMBER WILL OPEN F YOU WILL LOOK CAREFULLY BOX. IT IS IMPORTANT THAT ECAUSE YOU ARE ALL WORKING F A TEAM AND WILL BE HELPING	
TIME I WILL SAY "STOP." EN QUICKLY CLOSE THE BOX. AT YOU CLOSE IT IMMEDIATELY. CLOSED, WE WILL FILL OUT UR WORKSHEET.	
ok at their worksheets.	

MATERIALS



Date Name

	Things Seen
5 Seconds	
10 Seconds	
1 Minute	
5 Minutes	

Slide 1-1

TEACHING STRATEGIES

> IN ORDER TO DO THIS YOU WILL HAVE TO TRY TO REMEMBER HOW MANY THINGS YOU SAW AND THEN WRITE THESE THINGS UNDER THE WORDS "*THINGS SEEN*."
>
> THE OBJECT OF THE GAME IS TO SEE WHICH TEAM WILL BE ABLE TO REMEMBER AND WRITE DOWN THE MOST THINGS AFTER OBSERVING WHAT IS IN THE BOX FOR A CERTAIN PERIOD OF TIME.

Now distribute one box per team and remind the students not to open them until you say "Open." They are to look only during the time intervals. They will have a chance to record what they see later. When all have received their boxes, each team should select one person to open and close the box. Then say:

> READY ------OPEN!

GAME TIME

Stop the teams at the end of exactly five seconds and instruct them to fill out their worksheets.

> THIS FIRST TIME YOU HAD FIVE SECONDS TO LOOK IN THE BOX. NOW THAT YOU'RE FINISHED WRITE THE THINGS YOU SAW IN THE FIVE SECOND ROW ON YOUR WORKSHEET. (Point to the five second row on the slide of Worksheet 1-1.)

Have each team select a person to be the recorder. The recorder will write collective information on the team's worksheet. Tell the students not to be concerned about spelling, for the worksheet will mainly serve as a reminder

St

--s

--s

G STRATEGIES

YOU WILL HAVE TO TRY TO
HINGS YOU SAW AND THEN
UNDER THE WORDS "*THINGS*

AME IS TO SEE WHICH TEAM WILL
AND WRITE DOWN THE MOST
ING WHAT IS IN THE BOX FOR
TIME.

er team and remind the students
ou say "Open." They are to look
ervals. They will have a chance
later. When all have received
hould select one person to open
say:

GAME TIME

l of exactly five seconds and
t their worksheets.

HAD FIVE SECONDS TO LOOK IN
OU'RE FINISHED WRITE THE
E FIVE SECOND ROW ON YOUR
to the five second row on the
-1.)

person to be the recorder. The
ective information on the team's
dents not to be concerned about
eet will mainly serve as a reminder

ANTICIPATED STUDENT BEHAVIORS

Students:

--should open their boxes and observe the contents for five seconds.

--should close their boxes after five seconds.

MATERIALS

TEACHING STRATEGIES

to them of what they saw. Assist students with spelling when necessary.

Add:

> THERE IS EXTRA SPACE IN EACH ROW TO WRITE
> ANYTHING ELSE YOU NOTICED ABOUT THE THINGS
> IN YOUR BOX, SUCH AS COLORS, SIZE, ETC.
> USE THIS SPACE ALSO.

When all have finished, find out which team obtained the most information in each category by asking how many things they put down. Do not ask them to name the items, for that would give clues of what's in the box to other teams. Be sure to check the list of the team that claims to have the longest list to see that they do indeed have the longest correct list. Write the winning team for each category on the chalkboard.

Follow the above strategy for each timed interval listed on the worksheet.

MORE GAME TI

At the termination of the game, have the students take all the time they wish to really look at the things in the box. After they have had sufficient time to examine the contents, ask the students to assist you in listing the items in the box. Have the students describe each item as it is listed as to color, size, shape, etc.

EACHING STRATEGIES

ey saw. Assist students with spelling

A SPACE IN EACH ROW TO WRITE
YOU NOTICED ABOUT THE THINGS
SUCH AS COLORS, SIZE, ETC.
E ALSO.

shed, find out which team obtained the
n each category by asking how many
wn. Do not ask them to name the items,
e clues of what's in the box to other
check the list of the team that claims
t list to see that they do indeed have
t list. Write the winning team for
he chalkboard.

trategy for each timed interval listed

MORE GAME TIME

of the game, have the students take all
to really look at the things in the box.
d sufficient time to examine the con-
dents to assist you in listing the items
the students describe each item as it is
, size, shape, etc.

ANTICIPATED STUDENT BEHAVIORS

Students:

--write the data collected from observation on their worksheets.

--determine which team observed the most.

MATERIALS	TEACHING STRATEGIES
	Now distribute a magnifier to each student and direct team members to take each item out of their boxes and line them up on the table. Ask: HOW FAR AWAY FROM THE ITEMS IN THE BOX WERE YOU WHEN YOU LOOKED AT THEM? DO YOU THINK THE THINGS IN THE BOX WOULD LOOK DIFFERENT IF YOU LOOKED AT THEM WITH A MAGNIFIER LIKE THIS ONE? NOW WITH YOUR MAGNIFIER LOOK VERY CAREFULLY AT THE ITEMS. TRY TO REMEMBER THE NEW THINGS YOU NOTICE ABOUT EACH ITEM. It may be necessary to demonstrate how to use the magnifier. Tell the students to hold the lenses close to their eyes and move closer and closer to the items until they can see them clearly. Also tell the students that each circle on the lens is a different power, or makes things a different size. Have them experiment with each. HOW DID THE MAGNIFIER HELP YOU TO LOOK AT THINGS? Select two or three items that were in the box and ask: HOW DID (item) LOOK DIFFERENT UNDER THE MAGNIFIER?

G STRATEGIES

r to each student and direct
item out of their boxes and
.

E ITEMS IN THE BOX WERE
AT THEM?

NGS IN THE BOX WOULD LOOK
KED AT THEM WITH A MAGNIFIER

IER LOOK VERY CAREFULLY AT
EMEMBER THE NEW THINGS YOU
EM.

emonstrate how to use the
ents to hold the lenses close
oser and closer to the items
learly. Also tell the students
ens is a different power, or
size. Have them experiment

ER HELP YOU TO LOOK AT

s that were in the box and ask:

DIFFERENT UNDER THE

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Not too far," "A foot," "A couple of inches."

--respond, "Yes," "No," "Maybe."

--carefully examine the items with their magnifiers and note any new things seen.

--respond, "It helped me take a closer look," "I could see more parts," "Things look bigger," "Things looked different."

--describe how each item looked, noting in particular such things as texture, space between component parts, forms not previously seen, and shapes that are altered.

MATERIALS

TEACHING STRATEGIES

Allow and encourage students to express specific detail observed in the items such as grain, texture, or colors when using the magnifier.

Conclude by saying:

> LET'S SEE IF WE CAN BETTER ANSWER THE QUESTION I ASKED YOU ABOUT SEEING THINGS NOW THAT YOU'VE REALLY LOOKED AT SOME ITEMS.
>
> I ASKED, "HOW LONG DOES IT TAKE YOU TO REALLY SEE SOMETHING IN YOUR ENVIRONMENT"?
>
> DO YOU REALLY LOOK AT THINGS AROUND YOU EVERYDAY OR DO YOU JUST KIND OF PASS THEM BY?
>
> WHICH THINGS IN THE BOX WERE FROM OUR ENVIRONMENT?
>
> HOW SHOULD YOU LOOK AT YOUR ENVIRONMENT TO LEARN MORE ABOUT IT?

At the conclusion of the game, distribute the same photos taken earlier in this activity. See if the students can identify more components of their environment than they observed during the previous showing.

This will provide you with the opportunity to detect any keener sense of observation your students aquired during the activity, and will give the students a chance to spot additional aspects of their environment.

Allow any students who are interested to check out a magnifier. Say:

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
age students to express specific detail tems such as grain, texture, or colors agnifier.	
ng:	
F WE CAN BETTER ANSWER THE QUESTION I BOUT SEEING THINGS NOW THAT YOU'VE ED AT SOME ITEMS.	
W LONG DOES IT TAKE YOU TO REALLY NG IN YOUR ENVIRONMENT"?	--conclude, "A long time to see all of it," "You see more the longer you look."
LY LOOK AT THINGS AROUND YOU DO YOU JUST KIND OF PASS THEM	--respond, "Just kind of pass them by."
S IN THE BOX WERE FROM OUR ?	--respond, "All of them," or list each item.
OU LOOK AT YOUR ENVIRONMENT TO BOUT IT?	--infer or conclude, "Look closely," "Look a long time."
n of the game, distribute the same photos this activity. See if the students can mponents of their environment than they he previous showing.	
e you with the opportunity to detect any bservation your students aquired during d will give the students a chance to spects of their environment.	
ts who are interested to check out a	

MATERIALS	TEACHING STRATEGIES
	IF YOU'RE VERY CAREFUL WITH THE MAGNIFIERS, SOME OF YOU MIGHT LIKE TO TAKE THEM HOME, LOOK CLOSELY AT THE THINGS IN YOUR HOME ENVIRONMENT, AND SEE IF THEY LOOK DIFFERENT WHEN VIEWED CAREFULLY AND CLOSELY. Explain to students that they are responsible for any equipment checked out. Tell them that it must be retur the next day for use in class. Help them understand th it must be replaced if damaged or lost and that the gro will have less to work with while it is missing.

TRATEGIES

WITH THE MAGNIFIERS,
TO TAKE THEM HOME,
NGS IN YOUR HOME
THEY LOOK DIFFERENT
ND CLOSELY.

y are responsible for any
them that it must be returned
s. Help them understand that
ed or lost and that the group
while it is missing.

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-3: "Taking A Closer Look"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	Worksheet #	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Transparency #	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Were students able to attend to the task while working in teams?
☐ Yes ☐ No: Comment.

18. How much difficulty did the student recorders have recording on Worksheet 1?
(Circle one)
None Moderate Much Could not do
(Send in worksheet showing difficulty.)

19. Were students able to operate camera successfully?
☐ Yes ☐ No: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE A
ACTIVITY 1-3: "Taking A Closer Look"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my
Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

3. Create a greater interest in, and a more sensitive attitude toward, his environment.

4. Understand that his environment includes the whole Earth.

CORE A OBJECTIVES:

1. Expand the use of his senses.

2. Identify a wide variety of things in his environment.

MATERIALS	TEACHING STRATEGIES
	Activity 1-4. A Closer Look Outside *This activity will allow the students to take a closer look at their outdoor environment. The use of magnifiers will help students to notice details they normally would not see.*

IS ACTIVITY

his immediate environment through
y of sensory experiences and
contacts.

greater interest in, and a more
e attitude toward, his environment.

nd that his environment includes
e Earth.

:

he use of his senses.

a wide variety of things in his
ment.

CHING STRATEGIES

r Look Outside

ow the students to take a closer
environment. The use of magnifiers
notice details they normally would

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-4. A CLOSER LOOK OUTSIDE

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have found, drawn, or described in writing, objects out-of-doors that met the requirements listed on his search cards.
--have used a magnifier to discover details in objects which he had never noticed before.
--have concluded that all the things that he came in contact with are a part of his environment.
--have recalled the definition of the word "environment."

ACTIVITY 1-4
㉞

MATERIALS

Magnifiers - 1 per student
*Pieces of newspaper pictures - 1 per student
*Search cards: 3" X 5" index cards with one of the following directives written on it
Find something:

- that has lines on it.
- with dots on it.
- with one color on it.
- with two colors on it.
- with three colors on it.
- you can see through.
- that you think is ugly.
- that you think is pretty.
- that is smooth.
- that is rough.
- that is flat.
- that is living.
- that is sharp.
- that has many sides.
- that is thin.
- that jumps.
- that has four leaves on it.
- that has a smell.
- that has tiny holes.
- that is bumpy.
- that moves by itself.

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. The entire set of search cards should be equally distributed among the class. (Each student should have several cards.) To make them, simply print one of the topics listed in the materials column on a 3" X 5" index card.
2. These items are to be collected by the students out-of-doors. Therefore, locate an area nearby which might have most of the specifications listed on the search cards. If needed, obtain permission from your principal to take your class outside.
3. Have a newspaper picture cut out and available for each student to observe.

Begin by saying:

YESTERDAY WE STARTED TO FIND OUT MORE ABOUT OUR ENVIRONMENT BY USING OUR SENSES.

CAN ANYBODY REMEMBER WHAT THE WORD "ENVIRONMENT" MEANS?

WHAT SENSE DID WE USE TO FIND OUT ABOUT OUR ENVIRONMENT IN OUR LAST ACTIVITY?

YESTERDAY WE USED MAGNIFIERS TO LOOK AT SOME THINGS IN OUR CLASSROOM. TODAY WE'LL USE OUR MAGNIFIERS TO LOOK AT SOME THINGS FOUND *OUTSIDE* OUR CLASSROOM.

HOW MANY OF YOU THINK YOU HAVE SEEN ALMOST EVERYTHING POSSIBLE IN YOUR OUTDOOR ENVIRONMENT?

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
n:	
et of search cards should be equally among the class. (Each student several cards.) To make them, simply the topics listed in the materials 3" X 5" index card.	
are to be collected by the students . Therefore, locate an area nearby have most of the specifications listed h cards. If needed, obtain permission incipal to take your class outside.	
aper picture cut out and available dent to observe.	
STARTED TO FIND OUT MORE ABOUT NT BY USING OUR SENSES.	
EMEMBER WHAT THE WORD "ENVIRONMENT"	--recall the definition given in Activity 1-3 and respond, "Everything around me."
D WE USE TO FIND OUT ABOUT OUR N OUR LAST ACTIVITY?	--recall, "Seeing," "Sight," "Our eyes," "Looking."
USED MAGNIFIERS TO LOOK AT SOME CLASSROOM. TODAY WE'LL USE OUR LOOK AT SOME THINGS FOUND *OUTSIDE* .	
OU THINK YOU HAVE SEEN ALMOST SSIBLE IN YOUR OUTDOOR ENVIRONMENT?	--respond by raising their hands.

MATERIALS

TEACHING STRATEGIES

TODAY WE'RE GOING TO SEARCH FOR SOME THINGS OUTSIDE THAT I THINK SOME OF YOU PROBABLY HAVE NEVER LOOKED AT.

I'M GOING TO GIVE EACH OF YOU SEVERAL CARDS THAT ASK YOU TO DO SOMETHING. I'M CALLING THEM "SEARCH CARDS."

THESE CARDS WILL TELL YOU TO LOOK FOR SOMETHING IN OUR OUTDOOR ENVIRONMENT.

THE THINGS YOU FIND MUST BE SOMETHING YOU CAN SEE BETTER THROUGH A MAGNIFIER THAN WITH YOUR EYES ALONE.

FOR EXAMPLE: MY SEARCH CARD SAYS TO LOOK FOR SOMETHING SPOTTED. WHEN I LOOK AT THE NEWSPAPER PICTURED IT DOESN'T LOOK SPOTTED: BUT IF I LOOK CLOSELY WITH THE MAGNIFIER I CAN SEE MANY DOTS.

Distribute to each of the students a magnifier and a piece of a picture from a newspaper, and tell them to look at the picture for dots. As they are observing the picture, distribute the search cards as indicated under teacher preparation.

SINCE THIS IS OUR FIRST TRIP OUTSIDE IN SCIENCE CLASS, WHAT RULES DO YOU THINK WE SHOULD SET TO HELP US REMEMBER HOW TO ACT?

Review the rules with your students.

Then say:

WHEN WE GET TO THE AREA OUTSIDE THAT WE WILL EXPLORE, YOU MAY SEE SOMETHING THAT YOU THINK

St

--

--

ACHING STRATEGIES

ING TO SEARCH FOR SOME THINGS
THINK SOME OF YOU PROBABLY
KED AT.

IVE EACH OF YOU SEVERAL CARDS
O DO SOMETHING. I'M CALLING
ARDS."

LL TELL YOU TO LOOK FOR SOMETHING
ENVIRONMENT.

FIND MUST BE SOMETHING YOU CAN
ROUGH A MAGNIFIER THAN WITH YOUR

MY SEARCH CARD SAYS TO LOOK FOR
SOMETHING SPOTTED. WHEN I
LOOK AT THE NEWSPAPER PICTURED
IT DOESN'T LOOK SPOTTED: BUT IF
I LOOK CLOSELY WITH THE MAGNIFIER
I CAN SEE MANY DOTS.

of the students a magnifier and a piece
a newspaper, and tell them to look at the
As they are observing the picture,
rch cards as indicated under teacher

OUR FIRST TRIP OUTSIDE IN SCIENCE
ULES DO YOU THINK WE SHOULD SET TO
BER HOW TO ACT?

ith your students.

THE AREA OUTSIDE THAT WE WILL
MAY SEE SOMETHING THAT YOU THINK

ANTICIPATED STUDENT BEHAVIORS

Students:

--observe the dots on the newspaper picture.

--suggest rules such as "Stay in the area," "Come when the teacher calls," "Follow directions."

MATERIALS

TEACHING STRATEGIES

HAS LINES ON IT. WHAT CAN YOU DO TO MAKE SURE IT REALLY DOES HAVE LINES ON IT?

WHEN YOU HAVE FOUND WHAT YOUR CARD HAS ASKED YOU TO FIND, WRITE ITS NAME, OR DRAW A PICTURE OF IT, ON YOUR CARD.

(Remind the students to take pencils with them.)

Encourage the students to observe many other things as well as those things listed on the cards (they'll probably have to in order to find their objects).

Now take the class to the area of your choice and proceed with the activity. Be alert to those students who are not experiencing success and help them.

HAVE FUN OB

JOIN IN T

LOOK VERY

Upon returning to the classroom allow each student to indicate which of the cards he had and what it was he found that fulfilled the requirements of the card. The students might be more encouraged to respond if you started by giving your own "exciting" report.

HAV
INV
ALL
STUD

EACHING STRATEGIES

IT. WHAT CAN YOU DO TO MAKE SURE
S HAVE LINES ON IT?

FOUND WHAT YOUR CARD HAS ASKED YOU
E ITS NAME, OR DRAW A PICTURE OF IT,

ts to take pencils with them.)

ents to observe many other things as
gs listed on the cards (they'll probably
o find their objects).

to the area of your choice and proceed
Be alert to those students who are
uccess and help them.

HAVE FUN OBSERVING

JOIN IN THE FUN

LOOK VERY CLOSELY

the classroom allow each student to
the cards he had and what it was he
ed the requirements of the card. The
more encouraged to respond if you
your own "exciting" report.

HAVE YOU
INVOLVED
ALL
STUDENTS?

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Use the magnifier," "Look at it closer."

MATERIALS

TEACHING STRATEGIES

In conclusion ask:

HOW MANY OF YOU DISCOVERED SOMETHING YOU NEVER KNEW BEFORE?

Ask students who raised hands to tell the other students about their discoveries.

HOW DID THE MAGNIFIER HELP YOU?

DID YOU SEE ANYTHING OUTSIDE THAT IS PART OF YOUR ENVIRONMENT? WHAT?

DO YOU THINK WE COULD EVER BE HURT BY LOOKING AT SOMETHING IN OUR ENVIRONMENT?

DOES IT EVER HURT YOUR EYES TO LOOK AT THE SUN?

DOES IT EVER HURT YOUR EYES TO LOOK AT A BRIGHT LIGHT?

WHAT ARE SOME OTHER THINGS WE MIGHT LOOK AT AND HURT OUR EYES?

St

--

--

--

--

--

--

--

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
SCOVERED SOMETHING YOU	--raise hands.
hands to tell the other students .	
IER HELP YOU?	--conclude that the magnifier was very useful in looking at things more closely, and that they could see many things with a magnifier that they would have missed without one.
NG OUTSIDE THAT IS PART OF WHAT?	--respond, "Everything," and list many things that they saw outside.
ULD EVER BE HURT BY LOOKING R ENVIRONMENT?	--respond, "Yes," "No," "I don't know."
YOUR EYES TO LOOK AT THE SUN?	--respond, "Yes."
YOUR EYES TO LOOK AT A BRIGHT	--respond, "Yes."
ER THINGS WE MIGHT LOOK AT	--give various responses such as, "A torch," "A welder," "An eclipse."

UNIT I, CORE A

ACTIVITY 1-4: "A Closer Look Outside"

Teacher

BSCS USE: Post ____ Tally ____ Rev ___

Activity name suggested by class:

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: (Number)

Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

Materials used:	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is
☐ Of value--needs the revision suggested
☐ Worth salvaging--make major changes described
☐ Worthless --drop it

Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
    ☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

---

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
    Page(s) ____________________:

17. Were students able to find the things listed on their search cards?
    ☐ Yes ☐ No: Comment.

18. Did each student report on the findings made on the trip?
    ☐ Yes ☐ No
    If not, who and why not?

19. Did any students have difficulty describing the details seen under the magnifier?
    ☐ No ☐ Yes: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A
ACTIVITY 1-4: "A Closer Look Outside"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environm
   a variety of sensory experienc
   physical contacts.

3. Create a greater interest in, a
   sensitive attitude toward, his

4. Understand that his environment
   the whole Earth.

CORE A OBJECTIVES:

1. Expand the use of his senses.

2. Identify a wide variety of thin
   environment.

3. Identify some qualities that ma
   ments alike or different.

4. Determine the relationship he h
   living things.

MATERIALS

TEACHING STRATEGIES

Activity 1-5. Zoom In, Zoom Out

In this activity students will view a set of
have been prepared to show that objects in th
can be viewed so closely that texture and pat
revealed but that it is difficult or even imp
determine what is being viewed until seen fro
perspective. The point is made that there ar
the environment of which few people are aware
aspects can become known by close and careful

FOR THIS ACTIVITY

:

xplore his immediate environment through
variety of sensory experiences and
hysical contacts.

reate a greater interest in, and a more
ensitive attitude toward, his environment.

nderstand that his environment includes
he whole Earth.

ECTIVES:

xpand the use of his senses.

dentify a wide variety of things in his
nvironment.

dentify some qualities that make environ-
ents alike or different.

etermine the relationship he has with other
iving things.

TEACHING STRATEGIES

Zoom In, Zoom Out

y students will view a set of slides which
red to show that objects in the environment
o closely that texture and patterns are
at it is difficult or even impossible to
is being viewed until seen from a wider
he point is made that there are aspects of
of which few people are aware. These
ome known by close and careful observation.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-5. ZOOM IN, ZOOM OUT

ANTICIPATED STUDENT BEHAVIORS

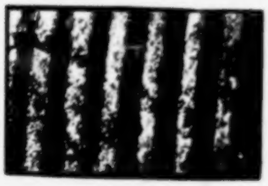
At the end of this activity, each student should:

- *--have attempted to identify objects viewed from very close, close, and far away.*
- *--have expressed that things look different depending on how one looks at them.*
- *--have used visual cues to stimulate imaginative speculation.*

MATERIALS

*35mm Slide projector
Slides 1-2 through 1-19

Slide 1-2



Slide 1-3

Slide 1-4

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Preview the slides before class to make sure they are in the proper sequence.

It is important that the slides be shown in sequence because the first slide shows a close up view of something. The student will describe what he sees and try to guess its identity. The second and third slides show a progressively more distant view of the same thing.

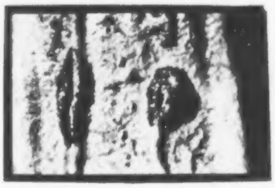
Begin by saying:

> DURING THE PAST FEW DAYS WE HAVE BEEN LOOKING AT THINGS IN OUR ENVIRONMENT. WHAT ARE SOME OF THE THINGS WE HAVE SEEN?
>
> WHEN WE WANTED A CLOSER LOOK AT SOME OF THE PARTS OF OUR ENVIRONMENT, SO WE COULD SEE SUCH THINGS AS LINES AND SPOTS, WHAT DID WE USE?
>
> HOW DID USING THE MAGNIFIER MAKE THINGS LOOK DIFFERENT?
>
> DO YOU THINK YOU COULD EVER TAKE SUCH A CLOSE LOOK AT SOMETHING IN YOUR ENVIRONMENT THAT YOU WOULDN'T BE ABLE TO TELL WHAT IT IS?
>
> TODAY WE ARE GOING TO LOOK AT SOME SLIDES WHICH SHOW THINGS THAT YOU MAY OR MAY NOT THINK ARE PART OF OUR ENVIRONMENT.

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
n: before class to make sure they are in e. at the slides be shown in sequence slide shows a close up view of something. escribe what he sees and try to guess its ond and third slides show a progressively of the same thing.	
ST FEW DAYS WE HAVE BEEN LOOKING AT ENVIRONMENT. WHAT ARE SOME OF THE E SEEN?	--recall Activities 1-3 and 1-4 and respond with the items in the boxes in Activity 1-3 and items found by using search cards in Activity 1-4.
D A CLOSER LOOK AT SOME OF THE ENVIRONMENT, SO WE COULD SEE S LINES AND SPOTS, WHAT DID WE	--recall the magnifier used in Activity 1-3 and 1-4 and respond, "Magnifier."
THE MAGNIFIER MAKE THINGS LOOK	--respond, "You could see things you couldn't see with the naked eye," "You got closer up," "You could only see part of it," etc.
YOU COULD EVER TAKE SUCH A CLOSE ING IN YOUR ENVIRONMENT THAT YOU LE TO TELL WHAT IT IS?	--predict, "Maybe," "No," "Yes," "I don't know," "No, I could always tell."
OING TO LOOK AT SOME SLIDES WHICH AT YOU MAY OR MAY NOT THINK ARE VIRONMENT.	

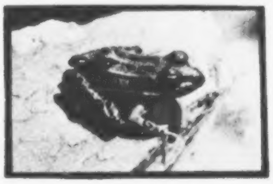
MATERIALS

Slide 1-5



Slide 1-6

Slide 1-7



TEACHING STRATEGIES

> IN ORDER TO DECIDE IF THEY'RE PART OF OUR ENVIRONMENT, YOU'LL HAVE TO IDENTIFY WHAT'S IN THE PICTURE. BUT THIS WON'T BE EASY BECAUSE AT FIRST WE'RE GOING TO SEE A PICTURE OF SOMETHING VERY, VERY CLOSE UP, JUST AS IF WE WERE LOOKING AT IT THROUGH A STRONG MAGNIFIER. THEN WE ARE GOING TO LOOK AT A PICTURE OF THE SAME THING A LITTLE FURTHER AWAY.

Each group of slides will consist of three photographs of the same item starting with an extreme close-up view. While viewing the slides, the students should concentrate on identifying the object by the details shown and conclude that magnification adds knowledge, perspective, and detail but not as much or as quickly as when looked at farther away.

Project Slide 1-2 (very close view) and ask:

> WHAT DOES THIS LOOK LIKE?
>
> WHAT COLORS DO YOU SEE?
>
> HOW DO YOU THINK IT WOULD FEEL? WHY?
>
> WHAT DO YOU THINK IT'S MADE OF?
>
> HOW LARGE DO YOU THINK IT IS?
>
> DO YOU LIKE THE WAY IT LOOKS? WHY? WHY NOT?
>
> DOES ANYBODY WANT TO GUESS WHAT IT IS?

A
OTH

STRATEGIES

THEY'RE PART OF OUR
AVE TO IDENTIFY WHAT'S
THIS WON'T BE EASY
E GOING TO SEE A
VERY, VERY CLOSE UP,
OKING AT IT THROUGH A
EN WE ARE GOING TO
THE SAME THING A LITTLE

consist of three photographs of
n an extreme close-up view.
the students should concentrate
by the details shown and
n adds knowledge, perspective,
or as quickly as when looked

ose view) and ask:

IKE?

E?

OULD FEEL? WHY?

S MADE OF?

K IT IS?

T LOOKS? WHY? WHY NOT?

GUESS WHAT IT IS?

ASK FOR OTHER IDEAS

ANTICIPATED STUDENT BEHAVIORS

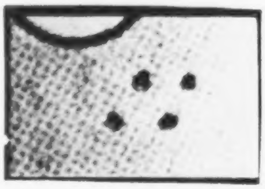
Students:

--respond with a variety of answers.

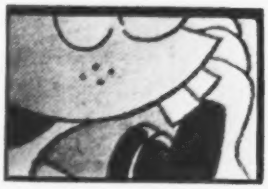
--respond with a variety of guesses.

MATERIALS

Slide 1-8



Slide 1-9



Slide 1-10

THE DENVER POST
25

TEACHING STRATEGIES

Write a large number one (1) on the chalkboard and unde
neath it write what the students guess the slide to be.

DO YOU THINK THIS IS PART OF OUR ENVIRONMENT? WHY? WHY NOT?

Do not tell students what the picture is. Say:

LET'S MOVE A LITTLE FARTHER AWAY AND SEE IF IT WILL HELP US TO BETTER IDENTIFY WHAT THE OBJECT IS.

Project Slide 1-3. (Same object, picture taken from a greater distance.)

NOW WHAT DOES IT LOOK LIKE?

HOW IS THIS LIKE THE LAST PICTURE?

HOW IS IT DIFFERENT?

WHO WANTS TO GUESS WHAT IT IS NOW, OR CHANGE THE GUESS YOU MADE BEFORE?

IN

G
STUD
T

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
(1) on the chalkboard and under- students guess the slide to be.	
S PART OF OUR ENVIRONMENT?	--respond, "Yes," or "No," and offer reasons.
t the picture is. Say:	
FARTHER AWAY AND SEE IF IT TER IDENTIFY WHAT THE OBJECT	
e object, picture taken from a ater distance.)	
OK LIKE?	--again students will give a variety of responses.
E LAST PICTURE?	
?	
WHAT IT IS NOW, OR CHANGE BEFORE?	--make new guesses or change former guesses.

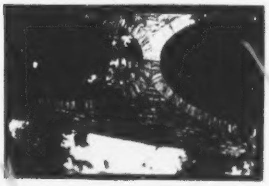
INVOLVE YOUR SLOWEST STUDENTS

GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

MATERIALS

Slide 1-11

Slide 1-12



Slide 1-13

TEACHING STRATEGIES

Write a number two (2) on the chalkboard and record the guesses made beneath it.

> NOW LET'S LOOK AT THE OBJECT ONCE AGAIN FROM FARTHER AWAY.

Project Slide 1-4. (Same object, picture taken from a greater distance.)

Ask:

> NOW WHO CAN GUESS WHAT THIS IS?
>
> HOW IS THIS PICTURE LIKE THE PICTURE IN THE FIRST SLIDE?
>
> WHAT DO YOU SEE HERE THAT YOU ALSO SAW IN THE FIRST SLIDE?
>
> HOW IS THIS PICTURE LIKE THE SECOND PICTURE?
>
> HOW IS THIS PICTURE DIFFERENT FROM THE FIRST TWO SLIDES?
>
> WHAT HELPED YOU MOST IN GUESSING WHAT IT WAS?
>
> DID YOU GUESS CORRECTLY WHAT THE FIRST SLIDE WAS? THE SECOND?

Use the lists of guesses on the board to help decide who guessed correctly.

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
) on the chalkboard and record the it.	
T THE OBJECT ONCE AGAIN FROM	
ame object, picture taken from a	
S WHAT THIS IS?	--should be able to identify the object correctly as a rusted tin can.
URE LIKE THE PICTURE IN THE	
HERE THAT YOU ALSO SAW IN THE	
URE LIKE THE SECOND PICTURE?	
URE DIFFERENT FROM THE FIRST	--should state that all three slides were of the same thing and that they couldn't recognize it at first because it was taken at a very close range.
MOST IN GUESSING WHAT IT WAS?	--answers will vary. Some might say, "Color," "Size," "The holes," "Shape," etc.
RRECTLY WHAT THE FIRST SLIDE ?	--respond, "Yes," "No," "I was close," etc.
ses on the board to help decide who	

MATERIALS

Slide 1-14

Slide 1-15

Slide 1-16

TEACHING STRATEGIES

LOCATE THE SPOT, IF YOU CAN, WHERE THE FIRST SLIDE WAS TAKEN.

Continue viewing each group of slides using the same strategy as above. Be sure to allow the students to guess what they think each close-up view is so they can later check to see how accurate they were.

When you have finished the sequence, you may want to repeat the series quickly so the students can use the different perspectives a second time.

Then ask:

WHAT WOULD BE THE BEST WAY TO LOOK AT AN OBJECT IN OUR ENVIRONMENT IN ORDER TO TELL WHAT IT IS?

Do not expect the class to reach agreement. They must ultimately realize that both normal viewing and magnifying are important, but that we do not have to magnify our world to appreciate it.

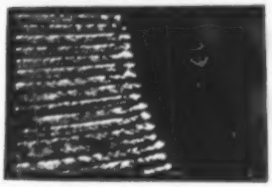
?
AC
A

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
IF YOU CAN, WHERE THE FIRST	--point to the spot on the screen where they think the first and second photos were taken.
group of slides using the same e sure to allow the students to each close-up view is so they can w accurate they were.	--should describe and attempt to guess what each of the remaining close-up slides and pictures are of, and correctly identify the frog, comic, bridge, wood of tree, and peacock feather when the last of each picture series is viewed.
d the sequence, you may want to ckly so the students can use the s a second time.	
E BEST WAY TO LOOK AT AN VIRONMENT IN ORDER TO TELL	--give opinions and probably conclude that it's better to get a total view of the object, maybe even several views.
ss to reach agreement. They must at both normal viewing and magnifying at we do not have to magnify our t.	

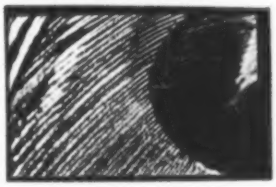
ACCEPT ALL ANSWERS

MATERIALS

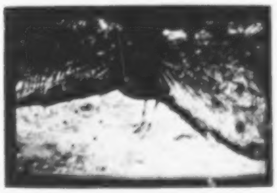
Slide 1-17



Slide 1-18



Slide 1-19



TEACHING STRATEGIES

Close-up And Far-away Photographs (Optional)

The students might enjoy taking pictures of things around home and school at close and far range. Allow students to use the camera provided to experiment with close-up and far-away photographs. Perfection must not be expected because this requires a special camera and skill. Even if the pictures are out of focus and blurred, the end result can be exciting.

Select two students to make a bulletin board using the photographs. Encourage other students to make a guess about what is taken in each photograph.

CAMERA

G STRATEGIES

tographs (Optional)

taking pictures of things around
and far range. Allow students to
o experiment with close-up and
rfection must not be expected
pecial camera and skill. Even if
ocus and blurred, the end result

ke a bulletin board using the
ther students to make a guess
ch photograph.

CAMERA TIME

ANTICIPATED STUDENT BEHAVIORS

UNIT 1, CORE A

ACTIVITY 1-5: "Zoom In, Zoom Out"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes · Explain:

15. Your rating of this activity:
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Indicate how many students could identify each scene from the first slide (closest view)?

1	2	3	4	5	6
none	none	none	none	none	none
some	some	some	some	some	some
many	many	many	many	many	many

18. Did you show the slides a second time?
☐ Yes ☐ No: Why not?

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE A
ACTIVITY 1-5: "Zoom In, Zoom Out"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

- ☐ how you organized materials or class.
- ☐ things added (a question, a picture, etc.).
- ☐ equipment, supplies, visual aids.
- ☐ things that went wrong, misunderstandings.
- ☐ what you would do differently or avoid next time.

THE STUDENTS

- ☐ who had problems and what they were.
- ☐ how someone "caught on" (or who never did).
- ☐ who was really "turned off" (or on).
- ☐ reactions of parents, teachers, students.
- ☐ special evidence of learning or applying ideas.

- ☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment

CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.

MATERIALS	TEACHING STRATEGIES

Activity 1-6. Sounds From My Environment

Through this activity the student will realize that much of our environment can be perceived through the sense of hearing. The student will identify various components o the environment by listening to their sounds. A slide picturing the source of some of the sounds will provide reinforcement of the students' guesses about what sounds they hear. The students will conclude that the accuracy of their guesses about sounds can be increased with the addition of visual clues.

OR THIS ACTIVITY

lore his immediate environment through ariety of sensory experiences and sical contacts.

ognize the environmental components ential for all living things.

ate a greater interest in, and a more sitive attitude toward, his environment.

TIVES:

and the use of his senses.

ntify a wide variety of things in his ironment.

ntify some qualities that make environ- ts alike or different.

ermine the relationship he has with er living things.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-6. SOUNDS FROM MY ENVIRONMENT

EACHING STRATEGIES

unds From My Environment

vity the student will realize that much t can be perceived through the sense of dent will identify various components of y listening to their sounds. A slide rce of some of the sounds will provide the students' guesses about what sounds tudents will conclude that the accuracy about sounds can be increased with the l clues.

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have listened to the tape of environmental sounds.*
- *--have identified the source of each taped sound.*
- *--conclude that guesses can be improved with the addition of more information.*

ACTIVITY 1-6

MATERIALS

*35mm Slide projector
Slides 1-20 through 1-27
*Cassette tape recorder
Tape of environmental sounds

*Not furnished in materials kit

TEACHING STRATEGIES

Begin the activity by asking:

> WE HAVE SEEN THAT OUR EYES HELP US LEARN ABOUT OUR ENVIRONMENT. ARE SOUNDS A PART OF OUR ENVIRONMENT?

> CAN YOU TELL WHAT AN OBJECT IN YOUR ENVIRONMENT IS JUST BY HEARING IT?

> LET'S TRY TO LISTEN AND TO FIND OUT. DO NOT TELL ANYONE WHAT THE SOUND IS; JUST RAISE YOUR HAND WHEN YOU THINK YOU KNOW WHAT IT IS.

The first three sounds on the tape are purposely made easy to start students on a successful listening experience. After listening to the sound most students will have their hands up.

Turn on the tape recorder and play the first sound (siren).

Ask a volunteer:

> (Student's name), WHAT MADE THE SOUND?

Ask the class:

> DOES EVERYONE AGREE WITH (student's name)?

ASK F
OTHER ID

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ity by asking:	
EN THAT OUR EYES HELP US LEARN ABOUT NMENT. ARE SOUNDS A PART OF OUR T?	--relate sound with something they are exposed to and therefore something in their environment and respond, "Yes."
LL WHAT AN OBJECT IN YOUR ENVIRONMENT HEARING IT?	--respond, "Sure," "No."
O LISTEN AND TO FIND OUT. DO NOT E WHAT THE SOUND IS; JUST RAISE WHEN YOU THINK YOU KNOW WHAT IT IS.	
sounds on the tape are purposely made easy ts on a successful listening experience. to the sound most students will have their	
e recorder and play the first sound (siren).	--raise hands as they identify the siren.
:	
name), WHAT MADE THE SOUND?	--respond, "Police car," "Siren."
ONE AGREE WITH (student's name)?	--should agree.

ASK FOR OTHER IDEAS

MATERIALS

TEACHING STRATEGIES

Allow students to discuss any disagreements that may arise.

Then ask:

WHAT THINGS HAVE SIRENS ON THEM?

WHAT WOULD YOU DO WHEN YOU ARE DRIVING AND YOU HEAR A SIREN?

IS A SIREN SOUND A PART OF YOUR ENVIRONMENT?

Then say:

LET'S TRY ANOTHER SOUND.

Turn on the tape recorder and play the second sound (farm). Again instruct students not to state what they think the sound is but to raise their hands when they think they know what it is. This will allow all students a chance to listen and make choices for themselves. When all students have responded with a show of hands, ask:

(Student's name), WHAT MADE THE SOUND?

Ask the class:

DOES EVERYONE AGREE WITH (student's name)?

Allow students to discuss any disagreements that may arise.

Then ask:

COULD WE TELL WHERE WE WERE FROM THE SOUND OF THE SIREN?

COULD WE TELL WHERE WE WERE WITH THE SECOND SOUND?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
cuss any disagreements that may arise.	
SIRENS ON THEM?	--should give examples such as, "Police cars," "Fire trucks," etc.
O WHEN YOU ARE DRIVING AND YOU	--respond, "Pull over to the side of the road and get out of the way."
A PART OF YOUR ENVIRONMENT?	--probably will agree it is.
R SOUND.	
rder and play the second sound (farm). nts not to state what they think the their hands when they think they know ll allow all students a chance to es for themselves. When all students show of hands, ask:	--raise hands as they identify the farm.
, WHAT MADE THE SOUND?	--respond, "A farm," "Animals."
REE WITH (student's name)?	--will probably agree.
cuss any disagreements that may arise.	
HERE WE WERE FROM THE SOUND OF	--respond, "No," or "Near a road somewhere."
HERE WE WERE WITH THE SECOND	--respond, "Yes, on a farm."

MATERIALS

TEACHING STRATEGIES

DO ALL SOUNDS GIVE US THE SAME KIND OF INFORMATION?

Now turn on the tape recorder and play the third sound (cat). Repeat the above strategy again, having students raise their hands in response to the sound. When ample listening time has passed, ask:

(Student's name), WHAT MADE THE SOUND?

Ask the class:

DOES EVERYONE AGREE WITH (student's name)?

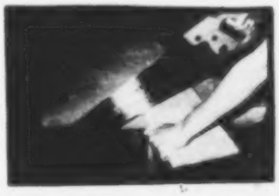
Allow students to discuss any disagreements that may arise.

Then ask:

DO YOU KNOW WHERE THIS CAT WAS WHEN HE MADE THE SOUND?

WHAT MIGHT HELP YOU IDENTIFY SOUNDS BETTER? OR WHAT WOULD YOU LIKE TO USE TO HELP YOU IDENTIFY SOUNDS?

Slide 1-20



Now project Slide 1-20 and ask:

WHAT SOUNDS DO YOU THINK YOU COULD HEAR AT THIS PLACE?

**GIVE
STUDENT
TO R**

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
GIVE US THE SAME KIND OF INFORMATION?	--conclude that different sounds will give us different information.
pe recorder and play the third sound above strategy again, having students in response to the sound. When ample passed, ask:	
ne), WHAT MADE THE SOUND?	--respond, "A cat."
AGREE WITH (student's name)?	--will probably agree.
iscuss any disagreements that may	
HERE THIS CAT WAS WHEN HE MADE THE	--respond, "No," "Could be anywhere."
LP YOU IDENTIFY SOUNDS BETTER? YOU LIKE TO USE TO HELP YOU DS?	--respond, "If I could hear better," "If I could see what is making the sound," "I don't know."
-20 and ask:	
YOU THINK YOU COULD HEAR AT THIS	--respond, "Sawing wood," or may imitate actual sounds they think they might hear at this place.

GIVE SEVERAL
STUDENTS A CHANCE
TO RESPOND

MATERIALS	TEACHING STRATEGIES
	After students have expressed their versions of the sounds say: NOW LET'S LISTEN TO THE SOUND MADE BY THIS PICTURE. WAS THE SOUND LIKE THOSE OR WHAT WE PREDICTED? COULD YOU HAVE DESCRIBED THE PICTURE FROM THE SOUND IF I HAD NOT SHOWN YOU THE PICTURE? LET'S TRY A GUESS, USING THE SOUND BEFORE THE PICTURE. Now turn on the tape recorder and play sound number five (motorcycle). Then ask: HOW MANY KNOW WHAT THE SOUND IS? (Student's name), WHAT DO YOU THINK IT IS? Ask the class: DOES EVERYONE AGREE WITH (student's name)? Allow students to discuss any disagreements that may arise.

ALLOW SO
HUMOR H

ASK F
OTHER ID

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
e expressed their versions of the	
TEN TO THE SOUND MADE BY THIS	--listen to the wood-sawing sounds.
LIKE THOSE OR WHAT WE PREDICTED?	--respond, "Yes."
E DESCRIBED THE PICTURE FROM THE D NOT SHOWN YOU THE PICTURE?	--respond boldly, "Of course."
UESS, USING THE SOUND BEFORE THE	
pe recorder and play sound number Then ask:	
WHAT THE SOUND IS?	--raise hands appropriately.
me), WHAT DO YOU THINK IT IS?	--respond with a guess.
AGREE WITH (student's name)?	--probably will agree.
discuss any disagreements that may	

ALLOW SOME HUMOR HERE

ASK FOR OTHER IDEAS

ACTIVITY 1-6

(52)

MATERIALS

TEACHING STRATEGIES

Then ask:

DO YOU KNOW WHERE THIS MOTORCYCLE IS?

HOW MIGHT YOU LEARN WHERE IT IS?

LET'S GUESS BEFORE WE SEE THE PICTURE.

GIVE SEV
STUDENTS A
TO RESP

Slide 1-21

Now show Slide 1-21.

WHAT DO YOU NOW KNOW THAT YOU DIDN'T KNOW
FROM JUST THE SOUND?

Slide 1-22

Succeeding sounds will become more difficult to recognize and disagreements should arise. Capitalize on these disagreements and allow students to defend their guesses. After much time for discussion in each case, showing the accompanying slide should lead the students to conclude that seeing where the sound comes from helps them to make better guesses about the sounds and locations. Students should realize at the end of this lesson that sight plus sound is better than either one separately.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OW WHERE THIS MOTORCYCLE IS?	--respond, "No."
YOU LEARN WHERE IT IS?	--respond, "Look at the picture."
SS BEFORE WE SEE THE PICTURE.	--should give a variety of guesses.
1-21.	
OU NOW KNOW THAT YOU DIDN'T KNOW THE SOUND?	--should analyze the slide and relate details not known from the sound alone. Expect such things as; "One person was on the cycle." "It had a 1971 Colorado license plate." "The person was driving on a blacktopped street." "Since there is a curbing the street is probably in a town." "The driver was wearing a safety helmet." "Judging from the clothing worn, it was fairly warm outside on the day the picture was taken."
nds will become more difficult to recognize nts should arise. Capitalize on these and allow students to defend their guesses. e for discussion in each case, showing the lide should lead the students to conclude ere the sound comes from helps them to make about the sounds and locations. Students at the end of this lesson that sight plus r than either one separately.	

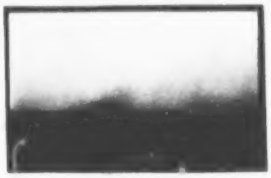
GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

MATERIALS

Slide 1-23

Slide 1-24

Slide 1-25



TEACHING STRATEGIES

Emphasize throughout the remainder of the sounds and slides that as we acquire more information, we make better predictions.

The remaining sounds and slides are outlined below:

#6	Crickets	Slide 1-22
#7	Jet Take Off	Slide 1-23
#8	Toilet Flushing	Slide 1-24
#9	Wind	Slide 1-25
#10	Thunder	Slide 1-26
#11	Surf	Slide 1-27

Use a similar strategy as you play each remaining sound and show the accompanying slide. Below is outlined a model strategy for sound #10 (Thunder).

Play the sound for a few seconds and then stop the tape. Say:

> RAISE YOUR HAND IF YOU THINK YOU KNOW WHAT THE SOUND IS.

Turn the tape recorder back on and continue to play the sound to the end. Then say:

> NOW HOW MANY THINK THEY CAN GUESS WHAT THE SOUND IS?
>
> WHY CAN MORE OF YOU GUESS NOW THAN WHEN I STOPPED THE FIRST TIME?
>
> (Student's name), WHAT HAVE YOU GUESSED?
>
> WHY DID YOU GUESS THAT?
>
> DOES ANYONE HAVE A DIFFERENT GUESS?

Pick a volunteer and ask:

ACHING STRATEGIES

:t the remainder of the sounds and
cquire more information, we make better

:s and slides are outlined below:

ckets Slide 1-22
: Take Off Slide 1-23
:let Flushing Slide 1-24
id Slide 1-25
ınder Slide 1-26
:f Slide 1-27

:egy as you play each remaining sound
panying slide. Below is outlined a
sound #10 (Thunder).

a few seconds and then stop the

ID IF YOU THINK YOU KNOW WHAT THE

rder back on and continue to play the
Then say:

HINK THEY CAN GUESS WHAT THE SOUND

F YOU GUESS NOW THAN WHEN I
IRST TIME?

me), WHAT HAVE YOU GUESSED?

JESS THAT?

AVE A DIFFERENT GUESS?

nd ask:

ANTICIPATED STUDENT BEHAVIORS

Students:

--raise hands appropriately.

--raise hands appropriately.

--respond, "We heard it longer."

--give a guess such as "Bowling balls."

--respond, "It sounded like bowling balls."

--raise hands appropriately.

MATERIALS

TEACHING STRATEGIES

(Student's name), WHAT IS YOUR GUESS?

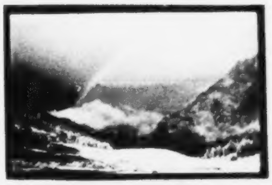
WHY DID YOU GUESS THAT? WHAT CLUES DID YOU HAVE?

After all guesses have been stated and defended, ask:

ARE ALL OF OUR GUESSES GOOD?

Assure students that many guesses are possible and worthy, based only on sound.

Slide 1-26



Now show Slide 1-26 and ask:

WHAT GUESS WAS PROBABLY BEST? WHY?

HOW DOES THE SLIDE HELP US?

After all sounds have been heard and all accompanying slides shown, ask:

Slide 1-27

CAN WE LEARN ABOUT OUR ENVIRONMENT BY LISTENING CAREFULLY?

CAN WE LEARN ABOUT OUR ENVIRONMENT BY LOOKING CAREFULLY?

WHICH ONE WILL PROBABLY TELL US THE MOST?

WHAT SHOULD YOU DO IF YOU WANT TO LEARN THE MOST ABOUT YOUR ENVIRONMENT?

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
e), WHAT IS YOUR GUESS?	--give a different guess such as, "Thunder."
ESS THAT? WHAT CLUES DID YOU	--respond, "It sounded like thunder."
ave been stated and defended, ask:	
GUESSES GOOD?	--respond, "Yes," "No, mine is best."
t many guesses are possible and worthy, .	
and ask:	
PROBABLY BEST? WHY?	--respond, "Thunder," analyze picture and justify some guesses and rule out others.
LIDE HELP US?	--respond, "It gives us further clues as to what we are hearing," "It pictured things (rainbow, storm clouds, rain streaks) that go along with thunder."
ve been heard and all accompanying	
BOUT OUR ENVIRONMENT BY LISTENING	--respond, "Yes."
BOUT OUR ENVIRONMENT BY LOOKING	--respond, "Yes."
PROBABLY TELL US THE MOST?	--probably will respond, "Seeing."
U DO IF YOU WANT TO LEARN THE R ENVIRONMENT?	--conclude that one should look and listen to learn the most.

UNIT I, CORE A
ACTIVITY 1-6: "Sounds From My Environment"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Were students unable to identify any of the following sounds before you showed the slide?
☐ No ☐ Yes
If yes, circle the sound and comment:
crickets jet toilet wind thunder surf

18. Concern (or questions) about content:

19. Messages for staff (read immediately):

BSCS Evaluation: **EMH Feedback Form 1c**

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE A
ACTIVITY 1-6: "Sounds From My Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment throu variety of sensory experiences and phys contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a mor sensitive attitude toward, his environm

CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in hi environment.
3. Identify some qualities that make envir ments alike or different.
4. Determine the relationship he has with other living things.

MATERIALS

TEACHING STRATEGIES

Activity 1-7. Environmental Orchestra

This activity will develop an awareness that sounds a generally heard in conjunction with other sounds rath than in isolation, and that certain sounds are clues certain kinds of environments. In addition this act will further help to develop the importance of lister

US FOR THIS ACTIVITY

LS:

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Recognize the environmental components essential for all living things.

Create a greater interest in, and a more sensitive attitude toward, his environment.

BJECTIVES:

Expand the use of his senses.

Identify a wide variety of things in his environment.

Identify some qualities that make environments alike or different.

Determine the relationship he has with other living things.

UNIT I.	EXPLORING MY ENVIRONMENT
CORE A.	SENSING MY ENVIRONMENT
ACTIVITY 1-7.	ENVIRONMENTAL ORCHESTRA

BSCS

TEACHING STRATEGIES

. Environmental Orchestra

will develop an awareness that sounds are ard in conjunction with other sounds rather ation, and that certain sounds are clues to s of environments. In addition this activity help to develop the importance of listening.

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have listened to sounds first in isolation, then in conjunction with other sounds.
--have attempted to identify the kind of environment in which the sounds would be heard.
--have realized that sounds are a part of our environment.
--have gained the information that sounds are both helpful and harmful to us.

ACTIVITY 1-7

(56)

MATERIALS

*Cassette tape recorder
Cassettes of taped environmental sounds

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Have the cassette and tape player ready for use.

2. The class should be held in a room than can be darkened.

3. Listen to the tapes prior to the class so you will be familiar with the sequence of sounds and know when to stop the tape.

   The first sequence of sounds, Set A (marshy end of a lake), was recorded in the following manner:

   General marsh sound (as this fades, stop the recorder and ask the students to identify as many of the discrete sounds as they can. Then continue on to the component sounds as indicate below)

   Splash (stop for discussion)

   Splash, bird sound (stop for discussion)

   Splash, bird sound, frog croak (stop for discussion)

   Splash, bird sound, frog croak, footsteps (stop for discussion)

   Splash, bird sound, frog croak, footsteps, motor boat (stop for discussion)

   The remaining five sets of sounds are recorded differently. The sounds are not repeated and the students will remain quiet until they have heard the entire sequence.

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
tte and tape player ready for use. ld be held in a room than can be tapes prior to the class so you ar with the sequence of sounds to stop the tape. ence of sounds, Set A (marshy end s recorded in the following manner: rsh sound (as this fades, stop the nd ask the students to identify as e discrete sounds as they can. Then n to the component sounds as indicated op for discussion) rd sound (stop for discussion) rd sound, frog croak (stop for) rd sound, frog croak, footsteps discussion) rd sound, frog croak, footsteps, (stop for discussion) five sets of sounds are recorded The sounds are not repeated and the remain quiet until they have heard uence.	

MATERIALS

TEACHING STRATEGIES

Sounds include among others:

Set B (airport): Fountain, people talking, footsteps, jets, P.A. (stop for discussion)

Set C (park): Swimming pool, birds, kids on play equipment (stop for discussion)

Set D (farm): Hand pump, chickens, cows, tractor (stop for discussion)

Set E (city street): Fire hydrant, pigeons, people walking, traffic, crowd talking (stop for discussion)

Set F (woodland - rural): Stream, birds, person walking, branches breaking, chain saw (stop for discussion)

Begin the class by darkening the room. Pull the shades and turn out the lights.

Say:

> WE ARE GOING TO SEE A MOVIE, BUT IT WILL BE VERY DIFFERENT FROM THE ONES WE USUALLY SEE. IN ORDER TO HAVE A MOVIE SCREEN YOU WILL NEED TO CLOSE YOUR EYES. YOUR EYELIDS WILL BE YOUR SCREEN.
>
> IN ORDER TO SEE THIS MOVIE, YOU MUST USE YOUR IMAGINATION AND FORM THE PICTURES IN YOUR MIND. NOW GET COMFORTABLE, CLOSE YOUR EYES, AND WITHOUT MAKING A SOUND, LISTEN CLOSELY. LATER WE'LL TALK ABOUT WHAT YOU SAW.

Stu

--

--

CHING STRATEGIES

others:

ort): Fountain, people talking, footsteps, jets, P.A. (stop for discussion)

): Swimming pool, birds, kids on play equipment (stop for discussion)

n): Hand pump, chickens, cows, tractor (stop for discussion)

street): Fire hydrant, pigeons, people walking, traffic, crowd talking (stop for discussion)

dland - rural): Stream, birds, person walking, branches breaking, chain saw (stop for discussion)

arkening the room. Pull the shades
nts.

SEE A MOVIE, BUT IT WILL BE
FROM THE ONES WE USUALLY SEE.
E A MOVIE SCREEN YOU WILL
OUR EYES. YOUR EYELIDS WILL

THIS MOVIE, YOU MUST USE YOUR
FORM THE PICTURES IN YOUR MIND.
ABLE, CLOSE YOUR EYES, AND
A SOUND, LISTEN CLOSELY.
K ABOUT WHAT YOU SAW.

ANTICIPATED STUDENT BEHAVIORS

Students:

--may ask questions such as, "Are we going to see a movie?", "Are we going to see more slides?"

--will be quiet and listen.

ACTIVITY 1-7 (58)

MATERIALS

TEACHING STRATEGIES

Now turn on the tape recorder and have the students li
to the general marsh sound (splash). Stop the tape.

Ask:

WHAT DID YOU HEAR?

WHERE DO YOU THINK YOU ARE?

Then start the tape and listen to the first specific s
taken in the same general habit.

Ask:

WHAT DID YOU HEAR?

If students say, "Water," ask:

WHY DO YOU SAY IT WAS WATER?

PRETEND NOW THAT YOU ARE IN THE PLACE WHERE THE SOUND CAME FROM. WHERE WOULD YOU BE?

Then say:

LET'S LISTEN AGAIN FOR ANOTHER SOUND THAT MIGHT HELP US DECIDE WHERE WE ARE.

Turn the tape on again and listen. This time two soun
will be heard: splash, bird sound. Stop the tape.

Ask:

WHAT DID YOU HEAR THIS TIME? WHAT MADE THE SOUNDS? WHERE ARE YOU NOW?

NG STRATEGIES

corder and have the students listen
nd (splash). Stop the tape.

YOU ARE?

listen to the first specific sound
l habit.

" ask:

AS WATER?

U ARE IN THE PLACE WHERE
M. WHERE WOULD YOU BE?

FOR ANOTHER SOUND THAT
E WHERE WE ARE.

nd listen. This time two sounds
bird sound. Stop the tape.

HIS TIME? WHAT MADE THE
YOU NOW?

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Birds, frogs, and insects."

--give a variety of guesses which will be confirmed or negated later on.

--respond, "Water," "I'm not sure."

--explain why the sound reminded them of water.

--guess where they might be and respond with such comments as, "Pond," "Canoe," etc.

--give varied responses.

INVOLVE YOUR
SLOWEST
STUDENTS

MATERIALS

TEACHING STRATEGIES

ASK F
OTHER ID

Then say:

> LET'S LISTEN AGAIN TO SEE IF YOU REALLY ARE WHERE YOU THINK YOU ARE. LISTEN.

Turn the tape on again. This time they will hear three sounds: splash, bird sound, frog croak.

Ask the same three questions as before, then continue in a like manner for the remainder of Set A. After the last sound in Set A has been heard, say:

> WHAT DID YOU HEAR?
>
> WHAT MADE THE SOUND?

GIVE SEVE
STUDENTS A
TO RESP

> WHERE ARE YOU NOW?
>
> WHAT CLUES DID YOU HEAR THAT HELPED YOU DECIDE WHERE YOU WERE?
>
> WHY COULDN'T YOU TELL RIGHT AWAY WHERE YOU WERE?
>
> HOW ARE ALL THESE SOUNDS RELATED?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
AIN TO SEE IF YOU REALLY ARE YOU ARE. LISTEN.	
ain. This time they will hear three rd sound, frog croak.	
uestions as before, then continue in e remainder of Set A. After the has been heard, say:	--attempt to determine the environment where the sounds were recorded.
EAR?	--give a variety of answers.
OUND?	--give a variety of answers.
OW?	
YOU HEAR THAT HELPED YOU DECIDE	
U TELL RIGHT AWAY WHERE YOU	--indicate that they didn't have enough information or clues.
ESE SOUNDS RELATED?	--respond, "They all come from the same place."

ASK FOR OTHER IDEAS

GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

MATERIALS

TEACHING STRATEGIES

NOTE: Not all students will picture themselves in the same environment. There is no exact environment that needs to be identified. The students may choose any place they envision as being the environment. However, ask them why they think the sounds came from that area or what helped them decide. Encourage imagination and diversity.

Upon completion of Set A, the students should have decide that they were somewhere near the water. If they haven't allow them to listen to the final portion of Set A again and identify the sounds. Ask the students where the sounds could logically be found.

Now continue with the remaining sets of sounds (B through F).

Before beginning Set B, say:

> THIS TIME YOU WILL HEAR ALL THE SOUNDS BEFORE THE TAPE IS STOPPED. AS YOU LISTEN TO EACH SOUND, TRY TO PICTURE IN YOUR MIND THE ENVIRONMENT THAT YOU ARE IN.

Turn on the tape and listen to each set of sounds. (Sets B through F.) After each set ask the following questions

> WHAT PICTURE DO YOU SEE ON YOUR SCREEN?
>
> WHERE DO YOU THINK YOU ARE?

GIV
STUDE
TO

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ll students will picture themselves in the nvironment. There is no exact environment eeds to be identified. The students may any place they envision as being the onment. However, ask them why they think ounds came from that area or what helped lecide. Encourage imagination and diversity.	
ion of Set A, the students should have decided e somewhere near the water. If they haven't, listen to the final portion of Set A again the sounds. Ask the students where the logically be found.	--on the basis of the sounds heard, should have identified the environment in which the sounds were made as being somewhere near a lake, bay or river.
with the remaining sets of sounds (B through	
ning Set B, say:	
ME YOU WILL HEAR ALL THE SOUNDS BEFORE E IS STOPPED. AS YOU LISTEN TO EACH RY TO PICTURE IN YOUR MIND THE ENVIRON-T YOU ARE IN.	
ape and listen to each set of sounds. (Sets After each set ask the following questions:	
CTURE DO YOU SEE ON YOUR SCREEN?	--give varied responses.
YOU THINK YOU ARE?	

**GIVE SEVERAL
STUDENTS A CHANCE
TO RESPOND**

MATERIALS

TEACHING STRATEGIES

HOW MANY SOUNDS DID YOU HEAR BEFORE YOU WERE ABLE TO GUESS YOUR ENVIRONMENT?

HOW WERE ALL THE SOUNDS ALIKE?

HA
INV
ALL
STUD

When all sound sets have been played, ask:

IN WHAT WAY WERE THE PICTURES OF THE ENVIRONMENTS YOU SAW ALIKE?

HOW COULD YOU TELL WHAT ENVIRONMENT YOU WERE IN?

ARE SOUNDS A PART OF OUR ENVIRONMENT?

WHAT DID WE USE TO LISTEN TO THE SOUNDS?

IS IT IMPORTANT TO LISTEN TO SOUNDS IN ORDER TO LEARN ABOUT OUR ENVIRONMENT?

WHY?

COULD WE LEARN ABOUT OUR ENVIRONMENT WITHOUT OUR EARS?

HOW DO SOUNDS HELP US?

ING STRATEGIES

D YOU HEAR BEFORE YOU
YOUR ENVIRONMENT?

OUNDS ALIKE?

e been played, ask:

HE PICTURES OF THE
AW ALIKE?

WHAT ENVIRONMENT YOU WERE

OF OUR ENVIRONMENT?

LISTEN TO THE SOUNDS?

LISTEN TO SOUNDS IN
UT OUR ENVIRONMENT?

UT OUR ENVIRONMENT

US?

HAVE YOU INVOLVED ALL STUDENTS?

ANTICIPATED STUDENT BEHAVIORS

Students:

--describe characteristics which were similar such as, "All being on earth," "They all had sounds," "They all had people in them," etc.

--respond, "By listening to the sounds."

--respond, "Yes."

--respond, "Our ears."

--respond, "Yes."

--respond, "They help us to tell where we are," "Help us to know what sounds things make," "Help us to know what's around us."

--respond, "Yes, sometimes," "Not as well," "Only about some things."

--respond, "To let others know how you feel," "To learn how others feel," "Tell us of danger," "Provide pleasure, music," etc.

ACTIVITY 1-7

62

MATERIALS	TEACHING STRATEGIES
	CAN YOU THINK OF ANY WAYS SOUNDS CAN HARM US? DO ANY OF YOU ENJOY LISTENING TO ROCK BANDS OR TURNING UP THE VOLUME ON YOUR RADIO VERY LOUD? LISTENING TO SOUNDS THAT ARE VERY LOUD FOR A LONG TIME, LIKE LOUD MUSIC, CAN DAMAGE YOUR HEARING FOR THE REST OF YOUR LIFE. IS IT IMPORTANT TO TAKE CARE OF YOUR EYES AND YOUR HEARING? WHY DO YOU THINK SO?

G STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
WAYS SOUNDS CAN HARM	--respond, "I don't know," "No," "Loud sounds can scare us."
ISTENING TO ROCK BANDS UME ON YOUR RADIO VERY	--respond, "Yes," "No," "Sure."
HAT ARE VERY LOUD FOR A MUSIC, CAN DAMAGE YOUR OF YOUR LIFE.	
KE CARE OF YOUR EYES AND	--respond, "Yes."
	--respond, "So we can hear the sounds in our environment."

UNIT I, CORE A
ACTIVITY 1-7: "Environmental Orchestra"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is
☐ Of value--needs the revision suggested
☐ Worth salvaging--make major changes described
☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. How many students had difficulty identifying environments from sounds?
☐ None ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.

18. Were there any sounds which the students were unable to identify?
☐ Yes ☐ No
If yes, which ones?

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A
ACTIVITY 1-7: "Environmental Orchestra"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

3. Create a greater interest in, and a more sensitive attitude toward his environment.

CORE A OBJECTIVES:

1. Expand the use of his senses.

2. Identify a wide variety of things in his environment.

3. Identify some qualities that make environments alike or different.

4. Determine the relationship he has with other living things.

MATERIALS

TEACHING STRATEGIES

Activity 1-8. Sounds Around Us

In the previous activity students listened to some sounds from an environment to determine its characteristics. In this activity the students will be given the opportunity to use a tape recorder to collect sounds within their own environment, and begin to make judgments on the nature and worth of certain sounds.

IIS ACTIVITY

his immediate environment through
ty of sensory experiences and
l contacts.

greater interest in, and a more
ve attitude toward his environment.

S:

the use of his senses.

y a wide variety of things in his
ment.

y some qualities that make
ments alike or different.

ne the relationship he has with other
things.

CHING STRATEGIES

Around Us

ity students listened to some sounds
o determine its characteristics. In
dents will be given the opportunity
r to collect sounds within their own
n to make judgments on the nature and
ds.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-8. SOUNDS AROUND US

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have participated in a group which recorded environmental sounds that met the requirements listed on the search cards.

--have taken a picture of one of the areas where his group recorded sounds.

--have participated in guessing the source of sounds recorded by other groups.

--have evaluated sounds according to his own likes and dislikes.

--have listened to a tape of sounds from a selected environment and cut out magazine pictures that depicted it.

ACTIVITY 1-8

MATERIALS

Camera
Tape recorder (several if possible)
Tapes of environmental sounds from Activity 1-7
*Glue or paste
*Construction paper
*Scissors
*Magazines
*Teacher prepared tape of students while they were involved in Activity 1-2
*Sound search cards: 3" X 5" index cards with the following written on them:

    loud, soft
    sounds good, doesn't sound good
    harmful, not harmful
    scary, not scary
    man-made, natural
    exciting, dull
    repeated or regular, not regular
    high, low
    continuous, broken
    tells you something is wrong, tells you something is OK

*3" X 5" index cards

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Prior to this activity, you made a recording of students while they were involved in Activity 1-2. Use it in this activity.
2. Prepare sound search cards by writing one category on each 3" X 5" card.
3. You will have to obtain an extra tape recorder or tape play back in order to organize this activity as written. If you can not locate one, reorganize the activity to fit your situation.

Begin by saying:

> I HAVE PREPARED A SPECIAL TAPE FOR YOU TO LISTEN TO. YOU HAVE HAD PRACTICE GUESSING WHAT KIND OF ENVIRONMENT SOME SOUNDS CAME FROM. NOW SEE IF YOU CAN GUESS THIS ENVIRONMENT.

Turn on the tape recorder and wait for student responses.

Then say:

> WHICH OF THE SOUNDS THAT YOU HAVE JUST LISTENED TO DID YOU RECOGNIZE?

The students may want to hear the tape again. If so, replay the tape.

Then ask:

> DID YOU LIKE WHAT YOU HEARD? WHY? WHY NOT?

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
:	
activity, you made a recording of e they were involved in Activity 1-2. s activity.	
search cards by writing one category 5" card.	
to obtain an extra tape recorder or k in order to organize this activity If you can not locate one, reorganize to fit your situation.	
D A SPECIAL TAPE FOR YOU TO U HAVE HAD PRACTICE GUESSING NVIRONMENT SOME SOUNDS CAME FROM. CAN GUESS THIS ENVIRONMENT.	
corder and wait for student responses.	--will recognize their own voices and sounds.
OUNDS THAT YOU HAVE JUST LISTENED OGNIZE?	--will identify voices of various individuals, chairs moving, things banging, etc.
nt to hear the tape again. If so,	
HAT YOU HEARD? WHY? WHY NOT?	--respond with such comments as, "It was too noisy," "John was swearing," "It was fun hearing myself," etc.

MATERIALS	TEACHING STRATEGIES

ACCE
ANS

If most students liked what they heard, omit the following question. If they disliked the noise, say:

WHAT COULD WE DO ABOUT THE UNPLEASANT SOUNDS YOU HEARD?

Then say:

> YOU HAVE JUST LISTENED TO THE ENVIRONMENT OF OUR CLASSROOM. NOW WE ARE GOING TO RECORD SOME OTHER SOUNDS WE HEAR AROUND OUR SCHOOL ENVIRONMENT. EACH GROUP WILL RECEIVE TWO OR THREE SOUND SEARCH CARDS. EACH CARD WILL TELL YOU TO FIND CERTAIN SOUNDS AND RECORD THEM ON TAPE. WHEN YOU RECORD THE SOUNDS, YOU WILL ALSO NEED TO TAKE A PICTURE OF WHERE THE SOUNDS CAME FROM.

At this time, depending on the experiences of your class, it might be necessary to explain how to operate the tape recorder. Demonstrate the proper operation to the entire class, and then allow each individual to operate the equipment, giving specific help where needed.

DEMON

CHING STRATEGIES

ACCEPT ALL ANSWERS

udents liked what they heard, omit
ing question. If they disliked
say:

WE DO ABOUT THE UNPLEASANT
HEARD?

ISTENED TO THE ENVIRONMENT OF
NOW WE ARE GOING TO RECORD SOME
HEAR AROUND OUR SCHOOL
ACH GROUP WILL RECEIVE TWO OR
RCH CARDS. EACH CARD WILL TELL
TAIN SOUNDS AND RECORD THEM ON
RECORD THE SOUNDS, YOU WILL
KE A PICTURE OF WHERE THE SOUNDS

ing on the experiences of your class,
y to explain how to operate the tape
te the proper operation to the entire
w each individual to operate the
ecific help where needed.

DEMONSTRATE

ANTICIPATED STUDENT BEHAVIORS

Students:

--suggest various ways of changing their behavior so that the atmosphere is more pleasant for everyone in the classroom; such changes as talking more softly, or not talking as much, or not making loud noises might be suggested.

MATERIALS

TEACHING STRATEGIES

> AFTER THE GROUPS HAVE RECORDED THEIR SOUNDS WE WILL PLAY THEM BACK AND THE CLASS WILL TRY TO DECIDE IF THE SOUNDS ARE WHAT THE CARDS ASKED FOR.

Now divide the class into groups of about three or four students and say:

> WE WILL WORK IN GROUPS SO WE CAN HELP ONE ANOTHER. SINCE WE HAVE ONLY ONE RECORDER AND ONE CAMERA, ONLY ONE GROUP WILL GO OUT AT A TIME. YOU MAY GO ANYWHERE IN OR AROUND THE SCHOOL AS LONG AS YOU DO NOT DISTURB OTHER CLASSES.

Distribute the sound search cards to each group.

Then say:

> READ YOUR SOUND SEARCH CARDS AND THINK ABOUT WHAT KINDS OF SOUNDS YOU CAN BE LISTENING FOR AROUND THE SCHOOL.

Help any groups which have difficulty reading their cards or deciding what kinds of sounds to listen for.

> DURING THE TIME ONE GROUP IS OUTSIDE I AM GOING TO PLAY A TAPE OF SOME SOUNDS FOR THE REST OF YOU. WHILE YOU'RE LISTENING TRY TO IMAGINE WHAT ENVIRONMENT THE SOUNDS ARE COMING FROM.
>
> EACH GROUP WILL TRY TO FIND PICTURES FROM MAGAZINES AND CATALOGUES WHICH SHOW THEIR IDEAS OF THE ENVIRONMENTS THE SOUNDS CAME FROM. YOU WILL THEN PASTE THE PICTURES IN ANY ORDER OR DESIGN YOU WISH ON A LARGE PIECE OF PAPER.

RATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ORDED THEIR SOUNDS WE HE CLASS WILL TRY TO WHAT THE CARDS ASKED	
ps of about three or four	
WE CAN HELP ONE NLY ONE RECORDER GROUP WILL GO OUT YWHERE IN OR AROUND DO NOT DISTURB	
rds to each group.	
RDS AND THINK ABOUT WHAT E LISTENING FOR AROUND	--read cards and think of sounds.
ficulty reading their cards ds to listen for.	
IS OUTSIDE I AM GOING UNDS FOR THE REST OF ING TRY TO IMAGINE DS ARE COMING FROM.	
ND PICTURES FROM WHICH SHOW THEIR THE SOUNDS CAME E THE PICTURES IN ISH ON A LARGE	

MATERIALS

TEACHING STRATEGIES

It will be necessary to have a generous assortment of picture magazines available for the students to cut. The type of pictures available will be a factor to consider in selecting which of the six tapes from Activity 1-7 you choose to play again for your students.

Play the tape you have selected for all students to hear. Distribute scissors, paste, and paper or have them available at some central supply table. Allow the students to begin the assignment.

Gather one group together and review with them the instructions for going out into the school area to record their sounds. Give them two or three sound cards and allow them to begin. When they return (10-15 minutes later), instruct them to continue the magazine work and allow another group to go out and record. Supply each group with two or three different sound search cards. You may wish to use a different cassette for each group. If so, be sure each time that the students do their recording on the blank side. Continue this procedure until all groups have had a chance to record. By the time all groups have recorded, they should also have had sufficient time to finish their magazine assignment.

After all the sounds have been recorded and all assignments completed, select a group to play their sounds to the class. As each sound is played, have other groups try to identify the sound and the corresponding sound search cards and the picture. Involve all students in the activity.

STRATEGIES

ve a generous assortment of
e for the students to cut.
able will be a factor to
n of the six tapes from
play again for your students.

ected for all students to hear.
, and paper or have them
supply table. Allow the
gnment.

and review with them the
into the school area to
them two or three sound
gin. When they return (10-15
hem to continue the magazine
up to go out and record.
or three different sound
h to use a different cassette
sure each time that the
g on the blank side. Continue
roups have had a chance to
roups have recorded, they should
ime to finish their magazine

been recorded and all assign-
group to play their sounds to
is played, have other groups
and the corresponding sound
re. Involve all students in

ANTICIPATED STUDENT BEHAVIORS

--play back their recorded sounds.

--guess the identity of the sounds and identify the corresponding sound search card and picture.

MATERIALS

TEACHING STRATEGIES

You may wish to have students make a bulletin board display of the pictures and search cards. The recorder could be available for individual students to use during a free period. Be sure to label the pictures and save the tape.

HA
INV
AL
STU

Then ask:

WHAT SOUND DID YOU LIKE? TELL US WHY YOU LIKE IT.

WHAT SOUND DID YOU NOT LIKE? TELL US WHY YOU DIDN'T LIKE IT.

SPECIAL NOTE:
YOUR VALUE

WHAT CAN YOU DO ABOUT THE SOUNDS YOU DID NOT LIKE?

HOW ARE THESE SOUNDS LIKE THE RECORDING OF OUR CLASSROOM? HOW ARE THEY DIFFERENT?

ARE SOUNDS A PART OF OUR ENVIRONMENT?

WHEN COULD SOUNDS IN OUR ENVIRONMENT HURT US?

As an alternative for those who are interested, allow a student or groups of students to take a recorder home and record sounds for others to identify the following day. You should try, however, to involve all students in collecting sounds.

ACHING STRATEGIES

e students make a bulletin board
ures and search cards. The recorder
for individual students to use during
sure to label the pictures and save

HAVE YOU INVOLVED ALL STUDENTS?

YOU LIKE? TELL US WHY YOU

YOU NOT LIKE? TELL US WHY YOU
.

SPECIAL NOTE: DON'T IMPOSE YOUR VALUE JUDGMENTS

O ABOUT THE SOUNDS YOU DID
.

SOUNDS LIKE THE RECORDING OF
HOW ARE THEY DIFFERENT?

ART OF OUR ENVIRONMENT?

NDS IN OUR ENVIRONMENT HURT US?

or those who are interested, allow a
f students to take a recorder home
or others to identify the following
y, however, to involve all students
s.

ANTICIPATED STUDENT BEHAVIORS

Students:

--identify sounds they like and dislike and give their reasons why, if they wish.

--decide what sounds could be changed.

--compare the classroom sounds with the school sounds.

--conclude that sounds are a part of our environment.

--respond, "If they are too loud."

UNIT I, CORE A
ACTIVITY 1-8: "Sounds Around Us"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ______ ______ ______ ______
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ______ ______ ______ ______
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Were students able to find sounds according to search cards?
☐ Yes ☐ No
List sounds students were unable to find.

18. What difficulty did students have operating the recorder?

19. What difficulty did students have operating the camera?

20. Concern (or questions) about content:

21. **Messages** for staff (read immediately):

BSCS Evaluation: **EMH Feedback Form 1c**

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE A
ACTIVITY 1-8: "Sounds Around Us"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.
☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward his environment.

CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.

MATERIALS

TEACHING STRATEGIES

Activity 1-9. Sniffing Around

In the previous activities the students used their senses of sight and hearing to perceive the environment. Now they will use their sense of smell to add another dimension to their understanding of their surroundings. They will also begin to realize that smell can be a warning of something polluted or dangerous.

R THIS ACTIVITY

ore his immediate environment through
riety of sensory experiences and
ical contacts.

te a greater interest in, and a more
itive attitude toward his environment.

IVES:

nd the use of his senses.

tify a wide variety of things in his
ronment.

tify some qualities that make
ronments alike or different.

EACHING STRATEGIES

ffing Around

tivities the students used their
d hearing to perceive the environment.
their sense of smell to add another
understanding of their surroundings.
in to realize that smell can be a
ng polluted or dangerous.

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

ACTIVITY 1-9. SNIFFING AROUND

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have experienced a wide range of odors which are both pleasant and unpleasant.*
- *--have indicated judgments on pleasant and unpleasant odors.*
- *--have concluded that odors are an important part of an environment.*
- *--have concluded that smells can warn him of danger.*

ACTIVITY 1-9

(70)

MATERIALS

- *Half-pint milk cartons (15 to 20)
- *Shoebox
- *Hammer
- *Nail
- *Masking tape
- *Cotton
- *Baby food or other small jars with lids (15 to 20)
- *Incense and matches
- *Soap
- *Polish remover
- *Paint
- *Banana peel
- *Hair spray
- *Cooked cabbage
- *Sauerkraut
- *Oil of cloves
- *Oil of wintergreen
- *Garlic (crushed)
- *Onion (crushed or chopped)
- *Household ammonia (on cotton)
- *Sage
- *Spoiled food (cottage cheese, meat, milk, rotten potato)
- *Gasoline (on cotton)
- *Clorox
- *Orange peel
- *Perfume
- *Rubbing alcohol
- *Hand lotion
- Worksheet 1-2
- *35mm Slide projector
- Slide 1-28

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Collect fifteen to twenty half-pint milk cartons

2. Each container should hold a small amount of one of the items suggested in the materials column. Fill the containers before class time. Be sure to dilute with water strong substances such as ammonia and Clorox. Do not combine items. Make substitutions if necessary. Keep a record of what you put in each container and staple it shut.

3. Punch a hole in the top of each milk carton about the size of a large nail. Cover the hole with a piece of masking tape. (See Diagram 1-6.)

4. Incense and matches should be ready to burn (hidd from view). If using oil of cloves, wintergreen, or peppermint, pour the liquid on your desk or o an absorbent object, out of the students' view. should take only a few moments to saturate the ro with one of these odors.

Before class begins have the aroma of incense, clove, peppermint, or wintergreen permeated throughout the roo and wait for the students to respond.

Then ask:

WHAT DO YOU THINK THE SMELL IS?

DOES IT SMELL LIKE ANYTHING YOU HAVE EVER SMELLED BEFORE?

HING STRATEGIES

to twenty half-pint milk cartons.

hould hold a small amount of one
gested in the materials column.
ers before class time. Be sure
ater strong substances such as
ox. Do not combine items.
ns if necessary. Keep a record
in each container and staple it

the top of each milk carton about
rge nail. Cover the hole with a
tape. (See Diagram 1-6.)

nes should be ready to burn (hidden
using oil of cloves, wintergreen,
our the liquid on your desk or on
ect, out of the students' view. It
a few moments to saturate the room
e odors.

ve the aroma of incense, clove,
reen permeated throughout the room
nts to respond.

THE SMELL IS?

E ANYTHING YOU HAVE EVER

ANTICIPATED STUDENT BEHAVIORS

Students:

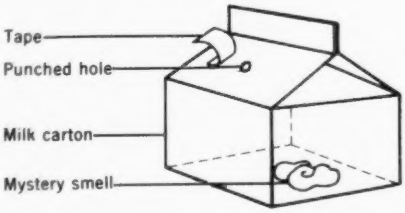
--respond, "What smells?" "Mmm, something smells good," "Ick, something stinks," "What is it?"

--attempt to identify the scent.

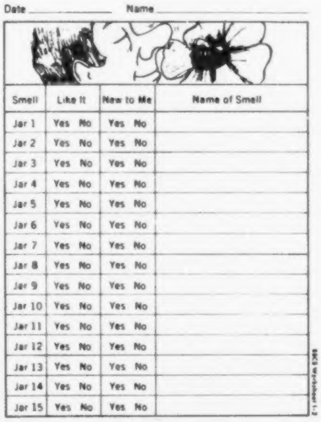
--compare the strange smell with a more familiar smell.

MATERIALS

Diagram 1-6



Worksheet 1-2



Date ______________ Name ______________________

Smell	Like It	New to Me	Name of Smell
Jar 1	Yes No	Yes No	
Jar 2	Yes No	Yes No	
Jar 3	Yes No	Yes No	
Jar 4	Yes No	Yes No	
Jar 5	Yes No	Yes No	
Jar 6	Yes No	Yes No	
Jar 7	Yes No	Yes No	
Jar 8	Yes No	Yes No	
Jar 9	Yes No	Yes No	
Jar 10	Yes No	Yes No	
Jar 11	Yes No	Yes No	
Jar 12	Yes No	Yes No	
Jar 13	Yes No	Yes No	
Jar 14	Yes No	Yes No	
Jar 15	Yes No	Yes No	

SKS Worksheet 1-2

TEACHING STRATEGIES

> WHERE DO YOU THINK IT'S COMING FROM?
>
> WHY DO YOU THINK IT'S COMING FROM THERE?
>
> DO YOU LIKE THE SCENT?
>
> HOW DOES THIS SMELL CHANGE OUR CLASSROOM ENVIRONMENT?

Choose a student who doesn't like the smell to find it and dispose of it.

Then say:

> I HAVE SOME MILK CARTONS THAT HAVE SOME INTERESTING SMELLS IN THEM. SOME SMELLS YOU MIGHT LIKE AND SOME YOU MIGHT NOT LIKE. YOU WILL GET A CHANCE TO SMELL WHAT IS IN EACH MILK CARTON.

Distribute a copy of Worksheet 1-2 to each student. Project the slide of the worksheet and say:

> THE FIRST COLUMN ON YOUR WORKSHEET SAYS CARTON 1, CARTON 2, CARTON 3, AND SO ON DOWN THE PAPER.
>
> EACH CARTON HAS A NUMBER ON IT. (Hold up a carton and point to the number.)
>
> IF CARTON 3 IS THE FIRST CARTON YOU SMELL, WHERE WILL YOU WRITE ON THE WORKSHEET?
>
> NOW I'M GOING TO UNCOVER THE HOLE IN THE TOP OF CARTON 3 AND TAKE A SNIFF (demonstrate).
>
> IF I LIKE WHAT I SMELL I'M GOING TO CIRCLE THE (YES) ON THE WORKSHEET BESIDE (3).

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OU THINK IT'S COMING FROM?	--attempt to point out the source of the scent.
THINK IT'S COMING FROM THERE?	--respond, "It smells stronger over there."
THE SCENT?	--respond, "Yes," "No."
IS SMELL CHANGE OUR CLASSROOM T?	--respond, "It stinks up our room," "It changes the air."
who doesn't like the smell to find it t.	--dispose of the (incense).
E MILK CARTONS THAT HAVE SOME S SMELLS IN THEM. SOME SMELLS LIKE AND SOME YOU MIGHT NOT LIKE. ET A CHANCE TO SMELL WHAT IS IN CARTON.	
y of Worksheet 1-2 to each student. de of the worksheet and say:	
COLUMN ON YOUR WORKSHEET SAYS CARTON 2, CARTON 3, AND SO ON APER.	
N HAS A NUMBER ON IT. (Hold up a point to the number.)	
3 IS THE FIRST CARTON YOU SMELL, YOU WRITE ON THE WORKSHEET?	--respond, "Next to the 3," "Where it says carton 3."
ING TO UNCOVER THE HOLE IN THE TOP 3 AND TAKE A SNIFF (demonstrate).	
WHAT I SMELL I'M GOING TO CIRCLE ON THE WORKSHEET BESIDE (3).	

MATERIALS

TEACHING STRATEGIES

Point out the "Like It" column and demonstrate by circling "yes" on the the projected worksheet.

WHAT WILL I DO IF I DON'T LIKE IT?

NEXT I'M GOING TO DECIDE IF THE SMELL IS NEW TO ME. IF IT IS, I'LL CIRCLE "YES".

Demonstrate by circling "yes" on the projected worksheet.

IF I HAVE SMELLED THE SMELL BEFORE, IS IT NEW TO ME?

THEN WHAT WILL I DO?

Now tell the students that the last column (point to the blank space) is for them to write down what they think is in the carton. Before beginning make sure all students understand how to use the worksheet. Have the cartons placed in different positions in the classroom so that students can work independently on identifying the smells. Be sure they have a place to write to fill in their worksheets. Instruct each student to stand by a carton. Tell him he will sniff the carton in front of him first. When you give the signal to move (1 to 2 minutes) each student will move to the next carton on his right. Remind the students always to match the number on the carton with the number on their worksheets before they do any marking.

HAVE A SNI

When the students have finished smelling the contents of each carton, project the slide of the worksheet on the chalkboard again.

Ask:

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
t" column and demonstrate by circling ected worksheet.	
F I DON'T LIKE IT?	--respond, "Circle 'No'."
O DECIDE IF THE SMELL IS T IS, I'LL CIRCLE "YES".	
ng "yes" on the projected worksheet.	
D THE SMELL BEFORE, IS IT NEW	--respond, "No."
DO?	--respond, "Circle 'No'."
that the last column (point to the hem to write down what they think fore beginning make sure all students the worksheet. Have the cartons ositions in the classroom so that ependently on identifying the smells. lace to write to fill in their each student to stand by a carton. f the carton in front of him first. nal to move (1 to 2 minutes) e to the next carton on his right. lways to match the number on the r on their worksheets before they do	
HAVE A SNIFFING GOOD TIME	
e finished smelling the contents of the slide of the worksheet on the	

MATERIALS

TEACHING STRATEGIES

HOW MANY OF YOU LIKED THE SMELL IN CARTON 1?

Write the number of students who raised their hands in the "Like It" column above the "Yes" on the projected worksheet.

HOW MANY OF YOU DID NOT LIKE THE SMELL IN CARTON 1?

Write the number of students who raised their hands in the "Like It" column above the "No" on the projected worksheet.

Bring out in the discussion that people do not necessarily react to smells in the same way.

Say:

IF THE SMELL IN CARTON 1 WAS NEW TO YOU, RAISE YOUR HAND.

Write the number of students to whom the smell was new in the appropriate column above the "Yes" on the projected worksheet.

Identify the contents of each container as the students check their papers to see how many smells they correctly identified.

Then say:

WHICH OF THESE SMELLS WOULD MAKE YOU SICK IF YOU WERE TO SMELL IT FOR A LONG PERIOD OF TIME?

ING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
KED THE SMELL IN CARTON 1?	--look at their worksheets and raise their hands if they circled "Yes."
dents who raised their hands in the the "Yes" on the projected	
D NOT LIKE THE SMELL IN	--look at their worksheets and raise their hands if they circled "No."
dents who raised their hands in the the "No" on the projected worksheet.	
sion that people do not necessarily same way.	
RTON 1 WAS NEW TO YOU, RAISE	--look at worksheets and raise their hands if they circled "Yes."
dents to whom the smell was new mn above the "Yes" on the projected	
f each container as the students ee how many smells they correctly	
ELLS WOULD MAKE YOU SICK IF IT FOR A LONG PERIOD OF TIME?	--respond, "Ammonia," "Clorox," "Spoiled food," "Gasoline," "Polish remover," or refer to the items by the numbers of the jars they were in.

MATERIALS

*3 to 4 Empty containers for each student (plastic baggies are fine)
*Sage or oregano

*Not furnished in materials kit

TEACHING STRATEGIES

CAN YOU THINK OF MORE SMELLS THAT COULD MAKE YOU VERY SICK OR TELL YOU OF DANGER?

WHY ARE SMELLS AN IMPORTANT PART OF OUR ENVIRONMENT?

You may also mention the value of having things in our environment that do not smell.

Sniffing Around Out Of Doors. (Optional)

TODAY WE WILL GO SNIFFING AROUND OUT OF DOORS TO SEE WHAT KINDS OF SMELLS WE CAN FIND -- AND TO SEE IF THERE ARE SOME THAT WE CAN COLLECT AND BRING BACK.

WHAT ARE SOME GOOD THINGS WE MIGHT SMELL?

WHAT ARE SOME BAD THINGS THAT WE MIGHT SMELL?

WHAT ARE SOME SMELLS WE CAN BRING BACK TO THE ROOM? THINK BACK TO THE KINDS OF THINGS WE HAD IN THE CONTAINERS YESTERDAY.

Make a list on the chalkboard of suggested smells to bring back. If plants are not included in the list show the pupils sage or oregano. Suggest that plants around the playground may have some interesting odors and that they might experiment by crushing and smelling some of the leaves they find outside. Encourage students to use their imaginations in discovering ways to bring smells from outdoors inside. Remind them not to break the shrubbery for this assignment.

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
MORE SMELLS THAT COULD MAKE TELL YOU OF DANGER?	--respond, "Smoke," "Gas leaks," "Car exhaust," etc.
N IMPORTANT PART OF OUR	--conclude that smells are an important part of our environment because they warn us of danger, or give clues to where we are, and because they are pleasant and add to our enjoyment of life.
the value of having things in our ot smell.	
f Doors. (Optional)	
SNIFFING AROUND OUT OF DOORS S OF SMELLS WE CAN FIND -- AND ARE SOME THAT WE CAN COLLECT	
OD THINGS WE MIGHT SMELL?	--respond, "Flowers," "Air," "Grass."
D THINGS THAT WE MIGHT SMELL?	--respond, "The air," "Air pollution," etc.
ELLS WE CAN BRING BACK TO THE K TO THE KINDS OF THINGS WE INERS YESTERDAY.	--respond, "Wood," "Plants," "Garbage," etc.
alkboard of suggested smells to bring not included in the list show the o. Suggest that plants around the ome interesting odors and that they rushing and smelling some of the ide. Encourage students to use discovering ways to bring smells Remind them not to break the ssignment.	

MATERIALS

TEACHING STRATEGIES

COLLECTING TIME

Ask:

HOW CAN SMELLS HELP YOU LEARN MORE ABOUT YOUR ENVIRONMENT?

EACHING STRATEGIES

ANTICIPATED STUDENT BEHAVIORS

Students:

COLLECTING TIME OUTDOORS

S HELP YOU LEARN MORE ABOUT YOUR

--respond, "Smells tell us if the air is clean or dirty," "If garbage is around," "It helps us identify plants and trees."

--conclude that smells help us learn more about the environment.

UNIT I, CORE A

ACTIVITY 1-9: "Sniffing Around"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

HIGH INTEREST → ________ ________ ________ ________

STRONG DISLIKE → ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	Worksheet #	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Transparency #	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
    ☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

---

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
    What parts of this activity should be retained when the curriculum is revised?
    Page(s) ____________________:

17. Was recording on Worksheet 1-2 too difficult for any of your students?
    ☐ No ☐ Yes: Who and why?
    (Send in Worksheet 1-2 showing difficulty.)

18. Did many students say that some smells were new to them?
    ☐ No ☐ Yes: Which smells?

19. Did you do the optional activity (Sniffing Around Out Of Doors)?
    ☐ No ☐ Yes
    Was it worth the time spent in terms of reinforcing the concept of odors as an important part of the environment?
    ☐ Yes ☐ No: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A
ACTIVITY 1-9: "Sniffing Around"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

3. Create a greater interest in, and a more sensitive attitude toward, his environment

CORE A OBJECTIVES:

1. Expand the use of his senses.

2. Identify a wide variety of things in his environment.

MATERIALS

Graphite
*Sawdust
*18 Styrofoam cups or jars
*Cornstarch (3 or 4 boxes)
*Water
*Food coloring
*Aluminum pie plates (1 per student)
*1 Container large enough to mix cornstarch with water
*1 Tablespoon to mix starch

*Not furnished in materials kit

TEACHING STRATEGIES

Activity 1-10. A Strange Feeling

The following activity provides the student with still another dimension in perceiving his environment. He will encounter sensory experiences that involve both sight and touch, and he will realize they don't always tell us the same things. He will have an opportunity to explore some unusual properties not encountered in ordinary materials.

Teacher Preparation:

1. Collect eighteen styrofoam cups. Fill nine of the cups with a small portion of sawdust, the other nine cups with a small portion of graphite. (Sawdust may be obtained from the school wood shop or a local lumber yard.)

2. Mix the box of cornstarch with enough water to form the consistency of pudding (1 1/2 cups of

THIS ACTIVITY

re his immediate environment through
iety of sensory experiences and
cal contacts.

e a greater interest in, and a more
tive attitude toward, his environment.

VES:

d the use of his senses.

ify a wide variety of things in his
onment.

ACHING STRATEGIES

trange Feeling

ity provides the student with still
n perceiving his environment. He
ory experiences that involve both
d he will realize they don't always
ings. He will have an opportunity
sual properties not encountered in

:

een styrofoam cups. Fill nine of the
mall portion of sawdust, the other
h a small portion of graphite.
be obtained from the school wood
al lumber yard.)

f cornstarch with enough water to
istency of pudding (1 1/2 cups of

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-10. A STRANGE FEELING

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have experienced contrasting qualities in the same material.*
- *--have experimented with a strange material.*
- *--have experienced that things don't always feel the way one might expect.*
- *--have concluded that some things we touch can help us and some things can hurt us.*

MATERIALS	TEACHING STRATEGIES

water per box). Add food coloring if you like. Do this prior to class time and play with it yourself to find out what it's like.

Begin by saying:

CAN ANYBODY REMEMBER WHAT THE WORD "ENVIRONMENT" MEANS?

WHAT SENSES HAVE WE USED SO FAR TO FIND OUT MORE ABOUT OUR ENVIRONMENT?

WHAT SENSE HAVEN'T WE USED YET TO EXPLORE OUR ENVIRONMENT?

WOULD IT BE VERY SAFE TO TASTE DIFFERENT THINGS IN OUR ENVIRONMENT?

WHY NOT?

TASTING IS A LITTLE RISKY. LET'S EXPLORE WITH TOUCH.

FEEL YOUR DESK. HOW DOES IT FEEL?

WHAT IS IT MADE OF?

DOES WOOD (METAL) ALWAYS FEEL HARD?

Now distribute the cups of sawdust among the students. Have them take turns feeling the sawdust.

Ask:

G STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
food coloring if you like. ss time and play with it what it's like.	
WHAT THE WORD "ENVIRONMENT"	--recall the definition given earlier and respond, "Everything around us."
USED SO FAR TO FIND OUT ONMENT?	--recall previous activities and respond, "Seeing," "Hearing," "Smelling."
E USED YET TO EXPLORE OUR	--recall the five senses and respond, "Touch," "Taste."
E TO TASTE DIFFERENT THINGS	--respond, "No."
	--respond, "They might be poison," "They'd be rotten," "Everything isn't good for us," etc.
RISKY. LET'S EXPLORE WITH	
DOES IT FEEL?	--respond, "Hard."
	--respond, "Wood," "Metal."
WAYS FEEL HARD?	--respond, "Yeah," "I think so."
f sawdust among the students. ing the sawdust.	

MATERIALS	TEACHING STRATEGIES
	DOES ANYONE KNOW WHAT THIS IS? If they do not identify the sawdust, say: HERE IS SOME SAWDUST. WHAT IS SAWDUST? HOW DOES IT FEEL? DOES IT LOOK LIKE THE WOOD YOUR DESK (or other suitable object) IS MADE OF? WHY? LOOK AT YOUR PENCIL. FEEL THE LEAD. HOW DOES IT FEEL? DOES LEAD ALWAYS FEEL HARD? Distribute the cups of graphite among the students. Have them take turns feeling the graphite. Caution them to be careful. While the graphite won't hurt anybody, it can be messy. Have wet paper towels handy for cleaning up. DOES ANYONE KNOW WHAT THIS IS? If students fail to identify the graphite, say: THIS IS CALLED GRAPHITE. IT IS THE SAME STUFF YOUR PENCIL LEAD IS MADE FROM EXCEPT THAT IT IS IN POWDERED FORM. HOW DOES IT FEEL? WHY DOES THIS FEEL SOFTER THAN THE PENCIL LEAD? Now give each student an aluminum pie plate containing some of the cornstarch mixture.

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OW WHAT THIS IS?	--identify the sawdust.
tify the sawdust, say:	
AWDUST. WHAT IS SAWDUST?	--respond, "Leftovers from wood," "Shavings."
EL?	--respond, "Soft."
IKE THE WOOD YOUR DESK (or other t) IS MADE OF? WHY?	--respond, "No," "Because it's all chopped up," "It's all sawed," "It's broken apart."
ENCIL. FEEL THE LEAD. HOW	--respond, "Hard."
YS FEEL HARD?	--respond, "Yes," "No," "I don't know."
of graphite among the students. Have ling the graphite. Caution them to be graphite won't hurt anybody, it can be per towels handy for cleaning up.	
OW WHAT THIS IS?	--respond, "Dirt," "Black stuff," "I don't know."
identify the graphite, say:	
GRAPHITE. IT IS THE SAME STUFF EAD IS MADE FROM EXCEPT THAT IT FORM.	
EEL?	--respond, "Soft."
FEEL SOFTER THAN THE PENCIL LEAD?	--respond, "It is broken up into smaller pieces."
ent an aluminum pie plate containing rch mixture.	

MATERIALS

TEACHING STRATEGIES

Then say:

> YOU HAVE FELT SOMETHING HARD AND SOMETHING SOFT. LOOK AT THIS AND WITHOUT TOUCHING IT, TELL US HOW YOU THINK IT FEELS.

When all have voiced their opinions, have the students poke their fingers into it. This mixture will stick to their fingers and crumble easily but can be swept up when dry and will wash out of clothes.

PLAY

FOOL

HAVE

Ask:

> HOW DOES IT FEEL?
>
> TRY TO BREAK IT.
>
> FIND A PIECE THAT'S WET.
>
> FIND A PIECE THAT'S DRY.
>
> PICK UP A HANDFUL AND HOLD IT. WHAT HAPPENS?
>
> IS IT HARD OR SOFT?
>
> IS IT WET OR IS IT DRY?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OMETHING HARD AND SOMETHING THIS AND WITHOUT TOUCHING YOU THINK IT FEELS.	--respond, "Hard," "Soft," "Gooey," "Stiff," "Watery," "Sticky."
their opinions, have the students nto it. This mixture will stick to umble easily but can be swept up sh out of clothes.	
PLAY TIME	
FOOL AROUND	
HAVE FUN	
L?	--respond, "Hard."
.	
AT'S WET.	
AT'S DRY.	
UL AND HOLD IT. WHAT HAPPENS?	--respond, "Wow, it drips back into the pan."
OFT?	--respond, "Both."
IT DRY?	--respond, "Both."

MATERIALS

TEACHING STRATEGIES

Allow the students sufficient time to experiment with the cornstarch. Save it. The students can use it another time if more water is added.

Conclude by asking:

> DO THINGS ALWAYS FEEL THE WAY YOU EXPECT THEM TO JUST BY LOOKING AT THEM?
>
> HOW CAN FEELING OR TOUCH HELP US?
>
> WHEN COULD TOUCHING THINGS HURT US?
>
> HOW CAN TOUCH HELP US FIND OUT MORE ABOUT OUR ENVIRONMENT?

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
sufficient time to experiment with the t. The students can use it another is added.	
YS FEEL THE WAY YOU EXPECT Y LOOKING AT THEM?	--respond, "No," "When you feel them they seem different."
G OR TOUCH HELP US?	--respond, "To find out what things are really like," "To see what is hot or cold," "To see if we can pick things up," etc.
CHING THINGS HURT US?	--respond, "If they're hot we could get burned," "We could cut ourselves," "Get stained," etc.
HELP US FIND OUT MORE ABOUT T?	--respond, "Helps us to find out what things are like," "Helps us to find out where we're going and where we are," etc.

ACTIVITY 1-10: "A Strange Feeling"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	Name students you noted especially
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

8. Materials used:

	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Were any students unwilling to play in the cornstarch mixture?
☐ No ☐ Yes: Who and why?

18. Concern (or questions) about content:

19. Messages for staff (read immediately):

H ve you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A
ACTIVITY 1-10: "A Strange Feeling"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.

MATERIALS

*35mm Slide projector
Worksheet 1-3
Slides 1-29 and 1-30

*Not furnished in materials kit

TEACHING STRATEGIES

Activity 1-11. Putting Yourself In The Picture -- A Review Of Success

The purpose of this exercise is to review the ways the student has used his senses to explore his environment and to determine how well he has learned to use them. The student will be asked to look at a picture, pretend he is in the environment pictured, and try to think of what senses he would use to learn about that particular environment.

Distribute a copy of Worksheet 1-3 to each student and say:

> FOR THE PAST FEW ACTIVITIES WE HAVE BEEN USING OUR SENSES TO FIND OUT MORE ABOUT OUR ENVIRONMENT. TODAY WE'RE GOING TO REVIEW IDEAS ABOUT HOW WE WOULD USE OUR SENSES IN DIFFERENT SITUATIONS.

HIS ACTIVITY

e his immediate environment through
ety of sensory experiences and
l contacts.

ES:

the use of his senses.

fy a wide variety of things in his
nment.

fy some qualities that make
nments alike or different.

CHING STRATEGIES

ing Yourself In The Picture -- A
ew Of Success

exercise is to review the ways the
senses to explore his environment
well he has learned to use them.
sked to look at a picture, pretend
ment pictured, and try to think of
use to learn about that particular

Worksheet 1-3 to each student and

V ACTIVITIES WE HAVE BEEN USING
IND OUT MORE ABOUT OUR ENVIRON-
'RE GOING TO REVIEW IDEAS ABOUT
E OUR SENSES IN DIFFERENT

UNIT I.	EXPLORING MY ENVIRONMENT
CORE A.	SENSING MY ENVIRONMENT
ACTIVITY 1-11.	PUTTING YOURSELF IN THE PICTURE -- A REVIEW OF SUCCESS

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have discussed Worksheet 1-3.
--have discussed and defended his choices marked on the worksheet.

MATERIALS

TEACHING STRATEGIES

WHAT ARE OUR SENSES?

Write the words "seeing, hearing, touching, tasting, smelling" on the board.

Worksheet 1-3

Slide 1-29

1
2
Main sense
Main sense
Others used a lot
Others used a lot

Project Slide 1-29 on the chalkboard. Say:

> LOOK AT PICTURE 1. PRETEND YOU ARE AT THIS PLACE. (Point to Picture 1.) WHAT PLACE DOES IT SHOW?
>
> NOW WRITE ON YOUR WORKSHEET THE MAIN SENSE YOU WOULD PROBABLY USE THE MOST AT THIS PLACE. (Point to "Main Sense" line on chalkboard.)

GIVE S
TIME
TO
THINK

ALLOW TI

Then say:

> IF YOU CAN THINK OF OTHER SENSES YOU WOULD USE A LOT AT THIS PLACE WRITE THEM ON YOUR WORKSHEET. (Point to "Others Used A Lot" line on the chalkboard.)

GIVE S
TIME
TO
THINK

TEACHING STRATEGIES

RE OUR SENSES?

ords "seeing, hearing, touching, tasting,
n the board.

de 1-29 on the chalkboard. Say:

T PICTURE 1. PRETEND YOU ARE AT THIS
(Point to Picture 1.) WHAT PLACE
T SHOW?

ITE ON YOUR WORKSHEET THE MAIN SENSE
ULD PROBABLY USE THE MOST AT THIS
(Point to "Main Sense" line on
oard.)

GIVE STUDENTS TIME TO THINK

ALLOW TIME TO WRITE

CAN THINK OF OTHER SENSES YOU WOULD
LOT AT THIS PLACE WRITE THEM ON YOUR
EET. (Point to "Others Used A Lot"
n the chalkboard.)

GIVE STUDENTS TIME TO THINK

ANTICIPATED STUDENT BEHAVIORS

Students:

--name eyes or seeing; ears or hearing; skin, touch or feeling; tongue or tasting; nose or smelling.

--respond, "A restaurant," "A place to eat."

--write a sense in the line provided on the worksheet.

MATERIALS

TEACHING STRATEGIES

ALLOW TIM

Now call on many students to share their answers. Accept all answers, but each time ask each student to explain why he selected the sense given. Let students come to the board to point to or mark things they would notice. As each sense is named have it written on the appropriate line on the chalkboard.

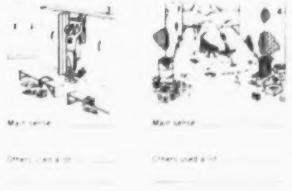
ACCE
ANS

Say as you discuss Picture 1:

> IF YOU CHANGE YOUR MIND ABOUT WHAT YOU THINK IS THE MAIN SENSE, WRITE YOUR NEW IDEA NEXT TO THE ONE YOU ORIGINALLY WROTE AND CROSS OUT YOUR OLD IDEA.

Continue to involve many students and have them give reasons for their answers. If students do not have the background for some of the scenes, tell what you would notice and vividly describe various features of the scene.

Slide 1-30



Repeat this procedure for scenes 2, 3, and 4.

After discussing all the pictures, ask:

> DOES EVERY PERSON NOTICE THE SAME THING IN A PICTURE?
>
> HOW MANY SENSES DO WE USUALLY USE IN A SITUATION?

TEACHING STRATEGIES

ALLOW TIME TO WRITE

y students to share their answers. Accept
t each time ask each student to explain why
sense given. Let students come to the
to or mark things they would notice. As
amed have it written on the appropriate
lkboard.

ACCEPT ALL
ANSWERS

uss Picture 1:

NGE YOUR MIND ABOUT WHAT YOU THINK
N SENSE, WRITE YOUR NEW IDEA NEXT
YOU ORIGINALLY WROTE AND CROSS OUT
DEA.

olve many students and have them give
ir answers. If students do not have
for some of the scenes, tell what
e and vividly describe various features

cedure for scenes 2, 3, and 4.

g all the pictures, ask:

PERSON NOTICE THE SAME THING IN

ENSES DO WE USUALLY USE IN A SITUATION?

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No," "Not always."

--respond, "More than one," "Most of them."

ACTIVITY 1-11

86

MATERIALS

TEACHING STRATEGIES

LOOK CAREFULLY AT YOUR WORKSHEETS. DID WE USE SOME SENSES MORE THAN OTHERS?

GI
TI
TO
TH

At the end of this activity collect the students workshe
and send them to BSCS with your feedback form for this activity.

ACHING STRATEGIES

AT YOUR WORKSHEETS. DID WE USE
RE THAN OTHERS?

GIVE STUDENTS
TIME
TO
THINK

activity collect the students worksheets
CS with your feedback form for this

ANTICIPATED STUDENT BEHAVIORS

Students:

--look at their worksheets and conclude that seeing, hearing, and smelling are used more than touching and tasting.

UNIT I, CORE A

ACTIVITY 1-11: "Putting Yourself In The Picture"

Activity name suggested by class:

Teacher
BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

---

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Were students able to defend their choices marked on Worksheet 1-3?
☐ Yes ☐ No: Comment.

18. Did most students name the same things as what they would notice in each picture?
☐ Yes ☐ No: Comment.

19. On a copy of Worksheet 1-3, note any problems or comments regarding artwork, or what should be added, or what could replace a picture. Send in with student worksheets.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

UNIT I, CORE A
ACTIVITY 1-11: "Putting Yourself In The Picture"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE A OBJECTIVES:

1. Expand the use of his senses.
2. Identify a wide variety of things in his environment.
3. Identify some qualities that make environments alike or different.
4. Determine the relationship he has with other living things.
5. Infer the needs of plants and animals.

MATERIALS

TEACHING STRATEGIES

Activity 1-12. An Animal Environment

The purpose of this activity is to assess the students' comprehension of the concepts in this core. In the first part students answer and discuss two questions. Part II of this activity is designed to help the students apply

THIS ACTIVITY

re his immediate environment through
iety of sensory experiences and
cal contacts.

nize the environmental components
tial for all living things.

e a greater interest in, and a more
tive attitude toward, his environment.

stand that his environment includes
nole Earth.

VES:

d the use of his senses.

ify a wide variety of things in his
onment.

ify some qualities that make
onments alike or different.

mine the relationship he has with
living things.

the needs of plants and animals.

ACHING STRATEGIES

Animal Environment

activity is to assess the students'
e concepts in this core. In the first
r and discuss two questions. Part II
designed to help the students apply

UNIT I. EXPLORING MY ENVIRONMENT

CORE A. SENSING MY ENVIRONMENT

BSCS

ACTIVITY 1-12. AN ANIMAL ENVIRONMENT

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

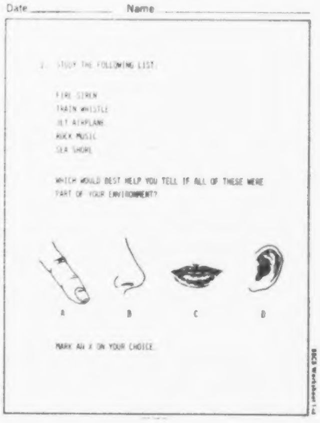
--have completed Worksheet 1-4 and discussed his answers to the questions.
--have closely observed the classroom pond and the classroom land animal.

MATERIALS

*35mm Slide projector
Worksheet 1-4
Slides 1-31 and 1-32

Slide 1-31

Worksheet 1-4


Date ________ Name ________

1. STUDY THE FOLLOWING LIST:

FIRE SIREN
TRAIN WHISTLE
JET AIRPLANE
ROCK MUSIC
SEA SHORE

WHICH WOULD BEST HELP YOU TELL IF ALL OF THESE WERE PART OF YOUR ENVIRONMENT?

A B C D

MARK AN X ON YOUR CHOICE.

BSCS Worksheet 1-4

*Not furnished in materials kit

TEACHING STRATEGIES

what they have learned about using their senses when exposed to an environment which is unfamiliar to them. The students will observe their classroom animal's habitat and determine, through observation and discussion, what things are a part of that animal's environment.

Part I.

> TODAY LET'S THINK ABOUT SOME OF THE THINGS WE HAVE LEARNED ABOUT OUR SENSES AND OUR ENVIRONMENT. I WILL HAND OUT A WORKSHEET AND READ THE QUESTIONS ON IT TO YOU. AS I READ A QUESTION, MARK EACH ANSWER THAT APPLIES. WE WILL TALK ABOUT YOUR ANSWERS AFTER WE HAVE FINISHED THE WORKSHEET. ARE THERE ANY QUESTIONS?

Distribute Worksheet 1-4 containing two questions and have students put their names and the date on it.

Project each question separately. Read the question and answers aloud to the students. Read the item a second time, allowing ample time for them to mark their worksheets. Repeat this procedure for the second question. Make sure all students are marking the question that is being projected.

After the students have answered the questions, collect the worksheets. Then project each slide again and discuss the answers with them. (Refer to Tallysheet 1-1 for the correct answers.) Have them defend their choices. After class, tally the students answers on Tallysheet 1-1. Consider whether the whole class needs further review or if only a few individuals need special attention.

EACHING STRATEGIES

arned about using their senses when
ironment which is unfamiliar to them.
observe their classroom animal's habitat
rough observation and discussion, what
of that animal's environment.

THINK ABOUT SOME OF THE THINGS
NED ABOUT OUR SENSES AND OUR
I WILL HAND OUT A WORKSHEET
QUESTIONS ON IT TO YOU. AS I
ION, MARK EACH ANSWER THAT
WILL TALK ABOUT YOUR ANSWERS
E FINISHED THE WORKSHEET. ARE
ESTIONS?

eet 1-4 containing two questions and have
r names and the date on it.

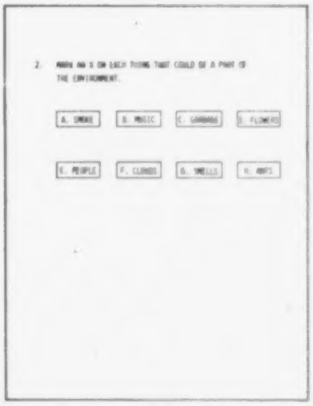
tion separately. Read the question and
the students. Read the item a second
ple time for them to mark their
at this procedure for the second question.
dents are marking the question that is

s have answered the questions, collect
Then project each slide again and discuss
them. (Refer to Tallysheet 1-1 for the
Have them defend their choices. After
students answers on Tallysheet 1-1.
the whole class needs further review or if
duals need special attention.

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- --have closely observed the classroom pond and the classroom land animal.
- --have identified some of the environmental components of his classroom habitat, the land animal's habitat, and the water animal's habitat.
- --have recognized that there is a relationship between himself and the living things in his classroom.
- --have successfully completed and reported on a poster of an animal's environment.

MATERIALS	TEACHING STRATEGIES
Slide 1-32 	After discussion of the questions, proceed to the next part. Part II. Begin by having the students sit around the pond. Ask: WHO CAN REMEMBER WHAT THE WORD "ENVIRONMENT" MEANS? Then say: WE HAVE BEEN LOOKING AT OUR ENVIRONMENT. LET'S LOOK AT THE ENVIRONMENT OF OUR POND ANIMALS. Focus the student's attention on a fish. WHAT THINGS ARE VERY IMPORTANT TO THE FISH? Say: ARE THESE A PART OF THE FISH'S ENVIRONMENT? WHY? Ask: HOW DOES THE FISH GET THESE THINGS? THEN ARE YOU A PART OF ITS ENVIRONMENT? WHY?

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
n of the questions, proceed to the next	
the students sit around the pond.	
MEMBER WHAT THE WORD "ENVIRONMENT"	--recall, "Everything around us," "Everything that we see, hear, touch, taste, and smell."
EN LOOKING AT OUR ENVIRONMENT. AT THE ENVIRONMENT OF OUR LS.	
nt's attention on a fish.	
S ARE VERY IMPORTANT TO THE FISH?	--respond, "Food," "Air," "Water," "Quiet," "A place to hide."
A PART OF THE FISH'S ENVIRONMENT?	--respond, "Yes."
	--respond, "Because they're around it."
HE FISH GET THESE THINGS?	--respond, "We have to get them for it."
OU A PART OF ITS ENVIRONMENT?	--respond, "Yes," "I guess so."
	--respond, "Because it needs us," "We help it," "We're around it."

ACTIVITY 1-12

MATERIALS	TEACHING STRATEGIES

CAN YOU THINK OF SOMETHING AROUND THE FISH
THAT IS NOT IMPORTANT TO IT?

ARE THEY ALSO A PART OF THE FISH'S ENVIRONMENT?

WHY?

CAN YOU HEAR THE FISH? LISTEN.

WHAT DO YOU HEAR?

DO YOU THINK THE FISH CAN HEAR YOU?

HOW COULD WE FIND OUT?

Have a student tap the side of the pond near the fish.

Ask:

WHAT HAPPENED?

WHY DO YOU SUPPOSE IT MOVED?

Explain to the students that while a fish does not have ears it does have certain places on its body that are sensitive to sound. Fish, then, are able to "hear".

WHY IS IT IMPORTANT FOR THE FISH TO HEAR THINGS
IN HIS ENVIRONMENT?

DO YOU THINK IT CAN SMELL? WHY OR WHY NOT?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
F SOMETHING AROUND THE FISH RTANT TO IT?	--respond, "Chairs," "Tables," "Desks," "A grain of sand," etc.
PART OF THE FISH'S ENVIRONMENT?	--respond, "Yes," "I guess so."
	--respond, "Because they're still around it and near to it."
FISH? LISTEN.	--respond, "Yes," "No."
R?	--respond, "Waves," "Nothing."
FISH CAN HEAR YOU?	--respond, "I don't know."
D OUT?	--respond, "Make a noise," "Yell at it," "Tap the pond," etc.
ne side of the pond near the fish.	
	--respond, "It moved."
SE IT MOVED?	--respond, "Maybe it heard the sound," "Maybe because the water moved."
nts that while a fish does not have rtain places on its body that are Fish, then, are able to "hear".	
TANT FOR THE FISH TO HEAR THINGS ENT?	--respond, "Because it can tell when someone's coming," "It's a warning."
CAN SMELL? WHY OR WHY NOT?	--respond, "It goes after food," "It doesn't have a nose," "It has to."

MATERIALS

TEACHING STRATEGIES

IF A FISH CAN SMELL, WHAT ELSE, THEN, COULD YOU SAY IS A PART OF ITS ENVIRONMENT?

NOW EACH OF YOU LOOK FOR SOMETHING AROUND THE FISH THAT HASN'T BEEN MENTIONED, YET MIGHT BE A PART OF ITS ENVIRONMENT.

Have each student report what he found and tell the class why he thinks it's a part of the fish's environment. Now focus the students' attention on the land animal (classroom pet). Use the same strategy as above for determining its environment.

GIVE STUD
TIME
TO
THINK

When the students have finished discussing the environment of their land and pond animals, say:

WE HAVE TALKED ABOUT THE ENVIRONMENTS OF OUR LAND AND POND ANIMALS. YOU HAVE SAID THAT YOU ARE A PART OF THEIR ENVIRONMENT. ARE THEY ALSO A PART OF YOUR ENVIRONMENT?

WHY?

WHAT ELSE IS IN YOUR ENVIRONMENT?

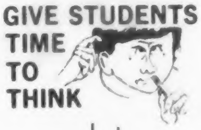
Be sure the students mention sounds, smells, and tastes in their answers.

STRATEGIES

WHAT ELSE, THEN, COULD
ITS ENVIRONMENT?

FOR SOMETHING AROUND THE
MENTIONED, YET MIGHT BE
MENT.

hat he found and tell the
part of the fish's environ-
nts' attention on the land
se the same strategy as above
onment.



ished discussing the environ-
nd animals, say:

THE ENVIRONMENTS OF OUR
S. YOU HAVE SAID THAT YOU
ENVIRONMENT. ARE THEY ALSO
ONMENT?

ENVIRONMENT?

ion sounds, smells, and tastes

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Smells," "All things it smells."

--look carefully around the room to name things that haven't previously been mentioned such as, "Ceiling," "Floor," "Sink," etc.

--specify environmental components of their land animals.

--respond, "Yes."

--respond, "They are in our room," "We have to take care of them," "We see them," "They're around us."

MATERIALS	TEACHING STRATEGIES

O

As a culmination of this core, have each student choose a land or pond animal in the room and draw or cut out pictures to show its environment. Be sure the students include all of the things that stimulate the senses, such as sights, sounds, and tastes. They should also include the things that fulfill the animals' needs such as light, air, shelter, etc.

Distribute large sheets of colored paper. Have paste, magazines, felt markers, colored paper, etc., available

Say:

> WE HAVE DISCUSSED WHAT AN ENVIRONMENT IS AND HOW THE SENSES ARE USED TO DISCOVER MORE ABOUT THE ENVIRONMENT. WE HAVE ALSO TALKED ABOUT WHAT ANIMALS NEED TO LIVE. TODAY YOU ARE TO PRETEND TO BE ONE OF THE ANIMALS IN OUR CLASSROOM. CHOOSE ANY ANIMAL YOU WISH EXCEPT PEOPLE! WHEN YOU HAVE MADE YOUR CHOICE, MAKE A PICTURE OF THE ENVIRONMENT FROM THE POINT OF VIEW OF THAT ANIMAL. YOU MAY DRAW THINGS, CUT OUT PICTURES TO USE, AND WRITE IN HOW THE ANIMAL MIGHT BE REACTING TO WHAT HE SENSES. YOU CAN TITLE YOUR POSTER, "AN ANIMAL'S ENVIRONMENT," OR MAKE UP A TITLE OF YOUR OWN.
>
> DO YOU KNOW WHAT TO DO?

GI
STUD
T

HING STRATEGIES

this core, have each student choose
l in the room and draw or cut out
environment. Be sure the students
hings that stimulate the senses,
ds, and tastes. They should also
hat fulfill the animals' needs such
er, etc.

ets of colored paper. Have paste,
ers, colored paper, etc., available.

ED WHAT AN ENVIRONMENT IS AND
ARE USED TO DISCOVER MORE ABOUT
. WE HAVE ALSO TALKED ABOUT
ED TO LIVE. TODAY YOU ARE TO
NE OF THE ANIMALS IN OUR CLASS-
NY ANIMAL YOU WISH EXCEPT
OU HAVE MADE YOUR CHOICE,
OF THE ENVIRONMENT FROM THE
F THAT ANIMAL. YOU MAY DRAW
PICTURES TO USE, AND WRITE
AL MIGHT BE REACTING TO
YOU CAN TITLE YOUR POSTER,
VIRONMENT," OR MAKE UP A
WN.

T TO DO?

ASK FOR OTHER IDEAS

GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

ANTICIPATED STUDENT BEHAVIORS

Students:

--explain the assignment.

MATERIALS

TEACHING STRATEGIES

If necessary, elaborate by saying:

> DRAW WHAT YOU THINK THE ANIMAL SEES, FEELS, SMELLS, HEARS, AND TASTES. ALSO SHOW WHAT IT NEEDS TO LIVE. TRY TO MAKE YOUR PICTURE SHOW THE ENVIRONMENT AS YOUR ANIMAL VIEWS IT.

Ask:

> WHAT DO YOU NEED TO DO BEFORE YOU BEGIN?

Assist students as needed. When they have their posters finished, display them in the room and have each student briefly explain his own. Remind the students to tell how the poster shows the animal's needs for life and how it senses its environment.

As each student describes his poster, use Tallysheet 1-1 to rate the accuracy of the view of the environment portrayed for the chosen animal.

Choose several of the posters to send in to BSCS with the tallysheet.

St

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
borate by saying:	
U THINK THE ANIMAL SEES, FEELS, S, AND TASTES. ALSO SHOW WHAT LIVE. TRY TO MAKE YOUR PICTURE IRONMENT AS YOUR ANIMAL VIEWS IT.	
NEED TO DO BEFORE YOU BEGIN?	--respond, "Decide on which animal's environment we want to show," "Decide on whether we want to draw or cut out pictures," "Look carefully at the animals environment," "Decide what its needs are."
s needed. When they have their posters them in the room and have each student is own. Remind the students to tell ows the animal's needs for life and how vironment.	
escribes his poster, use Tallysheet 1-1 racy of the view of the environment e chosen animal.	
the posters to send in to BSCS with	

Teacher ____________________
Date ____________________

UNIT I, CORE A
TALLYSHEET 1-1: Tally of Worksheet 1-4 and Rating of Posters
ACTIVITY 1-12: "An Animal Environment"

Student's Answers to Worksheet 1-4.

Circle each student's answers to Worksheet 1-4 in columns 1 and 2 below. In question 2 the best response would be to mark all twelve options (A-L). Six of the options have been touched upon in some way in this core and students should select them as part of the environment (B, D, E, G, J, L). The other six options are more ephemeral, remote, or have a negative connotation. Some of your students should have a broader concept of environment and mark these (A, C, F, H, I, K). Be sure to have students who marked these explain their reasons.

Rating of Poster, "An Animal's Environment."

See the back of this Tallysheet for instructions on rating poster.

		1 (Ears)				2 (Environment)											
	KEY:	A	B	C	[✓ D]	A	[✓ B]	C	[✓ D]	[✓ E]	F	[✓ G]	H	I	[✓ J]	K	[✓ L]
Attach ID list here.	01	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L

Attach ID list here.	01	A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
		A	B	C	D	A	B	C	D	E	F	G	H	I	J	K	L
TOTALS:		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Not in instruction:						A ___		C ___			F ___		H ___	I ___		K ___	

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No
If not, what other evidence do you have of student learning?

TALLYSHEET 1-1: Tally of Worksheet 1-4 and Rating of Posters

Rating of Poster, "An Animal's Environment."

Rate each student while he explains his poster. Based on the poster and the student's explanation of it, rate whether the student has presented an accurate view of his animal's environment.

In column 3,(animal chosen), write in the animal selected by the student.

In column 4,(accurate view of environment), circle Yes if the student has selected at least five appropriate components of that animal's environment. Components that are especially appropriate to show include the cage or enclosure, the medium in which the animal lives (dirt, water, leaves, etc.), hiding place, food and water, students, etc.

Circle Omits if the student has shown (or described) only three or four appropriate components. Use your judgment of what is appropriate.

Circle No if the student's poster is incomplete or shows only one or two components.

In column 5,(comments) note any comments you may have about the poster's quality, the student's explanation, or problems he encountered. Be sure to select several posters to send in to BSCS with this Tallysheet.

		3 (animal chosen)	4 (accurate view of environment)	5 (comments)
Attach ID list here.	01		Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	
			Yes Omits No	

Attach ID
list here.

01		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	
		Yes Omits No	

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No
If not, what other evidence do you have of student learning?

UNIT I, CORE A
ACTIVITY 1-12: "An Animal Environment"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit. ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

Materials used:

	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did any student give away the answer to either question on the worksheet?
☐ No ☐ Yes: Comment.

18. Did students have difficulty assuming the animals' perspective (looking out rather than in) for their poster?
☐ No ☐ Yes: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

BSCS Evaluation: **EMH Feedback Form 1c**

UNIT I, CORE A
ACTIVITY 1-12: "An Animal Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

UNIT I
REACTIONS TO CORE A

1. Was the background information for this core adequate? ☐ Yes ☐ No
Comment:

2. Was it clear to you why these particular activities were chosen and the direction they were leading? ☐ Yes ☐ No
Comment:

3. Did the activities fulfill the purposes stated in the Guide for this core? ☐ Yes ☐ No
Comment:

4. How would you increase the clarity of this core for students? (Help them understand why they are doing these activities.)

5. Is there a practical (take-home) value for your students in these activities? ☐ Yes ☐ No
6. If yes, what do you see as the "take-home" lesson? If no, what is needed?

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No
Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No
Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No
Comment:

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No
Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No
Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No
Comment:

11. If you could teach your way, rather than following the Guide, how would you do it?

12. **Which of your students do you believe were unsuccessful in achieving the objectives of this core of activities? Explain.**

SIDE A

NEW STUDENTS ENTERING DURING THIS CORE

Date Entered	Last Name Name Used	Ethnic Group	Sex	Birthdate	Test date	Test	Tot
		W B S O	M F			W B O	
		W B S O	M F			W B O	
		W B S O	M F			W B O	
		W B S O	M F			W B O	

W = white
B = black
S = Spanish-American
O = other

W = WISC
B = Binet
O = other (name)

STUDENTS DROPPED IN THIS PERIOD

Date Dropped	Last Name First

ADDITIONAL INFORMATION ON NEW STUDENTS:

UDENTS ENTERING DURING THIS CORE

Birthdate	Test date	Test	Total	Verbal	Performance	Previous Test Score
		W B O				
		W B O				
		W B O				
		W B O				

W = WISC
B = Binet
O = other
(name)

SIDE B

Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

AIMS FOR ME AND MY ENVIRONMENT

1. DEVELOPMENT IN EACH CHILD OF A SENSE OF IDENTITY AS A PERSON WHO HAS SOME DEGREE OF CONTROL OVER AND CAN ACT ON HIS ENVIRONMENT. This will lead to a degree of self-determination based on a rational coping with situations rather than on a passive compliance or an impulsive response to problems.
2. DEVELOPMENT IN EACH CHILD OF A SUCCESS SYNDROME. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility -- almost obligation -- to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. The students as a group should help each individual fit what he has done into a pattern of accomplishment.
3. DEVELOPMENT IN EACH CHILD OF AN INTEREST THAT COULD BECOME A HOBBY OR AVOCATION OVER A LIFETIME (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.
4. DEVELOPMENT IN EACH CHILD OF A SENSE OF RELATIONSHIP AND EMPATHY WITH OTHER LIVING THINGS. It is hoped that this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. DEVELOPMENT IN EACH CHILD OF AN UNDERSTANDING OF ENVIRONMENTAL CONDITIONS that will lead to a sense of responsibility for the environment and actions that protect or improve it.

1. Explore his immediate environme and physical contacts.
2. Recognize the environmental com
3. Create a greater interest in, a environment.
4. Understand that his environment

OBJ

1. Explore a variety of environmen and characteristics.
2. Group things according to obser
3. Practice making estimates and p
4. Determine new relationships he

UNIT I. EXPLORING MY ENVIRONMENT

BSCS

UNIT I GOALS

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

OBJECTIVES OF CORE B

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

Me and my
Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

CORE B RATIONALE

"Investigating My Environment" is an extension of the previous core, "Sensing My Environment." Activities for the preceding core have been designed to increase the student's powers of perception so that sensory awareness of his immediate environment would become more acute. The central aims for the activities in this core are to have the student extend and use these powers of perception to develop both quantitative and qualitative attitudes in viewing his immediate environment.

Activities in classification and categorizing have been sequentially arranged so that students develop an awareness that there are functional reasons for grouping. Certain of the activities have been designed to allow the student to place the same object in a number of different groups. This should lead to an understanding that observable attributes, sources, or functions are among the many justifiable reasons for forming categories.

A thorough conceptual understanding of all of the major environmental components is not easily developed, but the intent is to develop an awareness of some of them. Several activities have been devoted to temperature because temperature is an important environmental component, and its fluctuations obviously affect all living things. The ability to read a thermometer is an important functional skill. Taking the body temperature when ill or reading a thermostat in the home are common functions requiring thermometer reading skills.

The activities are designed so that the student will experience the effect of temperature differences both on himself and on other organisms. As a result the student will realize the necessity for knowing how to use a thermometer and will practice taking temperatures.

BACKGROUND

The activities on cat
in order to give the stude
into groups. The student
because of observable char
defined criteria.

In the activities on
of temperature changes on
areas, but if they can't b
suffice. All living thing
tolerance level, beyond wh
cold, the ants go undergro
shelter and come out peric
isms in the pond will alsc
that the minimum temperatu
should not be used in the
maximum and minimum temper
design an experiment to te
plants, it may add interes
plants, one that will be a
and one that can withstand

The opening story in
Travels; it is used to sti
for standard units in comm
interest in what happened
version of the story in th
English class.

revious
core
ption
become
are
to
ng his

hat
cti-
ame
an
ons
s.

tent
ies

ously
is
when

n-

BACKGROUND INFORMATION FOR THE TEACHER

The activities on categorizing have been sequentially developed in order to give the student a functional purpose for sorting things into groups. The student learns to assign objects in categories because of observable characteristics, sources, functions, or other defined criteria.

In the activities on temperature, ants are used to show the effect of temperature changes on living things. Ants are easy to find in most areas, but if they can't be found, any other cold blooded organism will suffice. All living things have a maximum and minimum temperature tolerance level, beyond which death will occur. When the weather turns cold, the ants go underground. Mammals, being warm blooded, either find shelter and come out periodically or hibernate in cold weather. Organisms in the pond will also respond to temperature changes. Please note that the minimum temperature for tropical fish is 65°F. They, therefore, should not be used in the temperature experiments. Plants also have maximum and minimum temperature tolerances. If the students do wish to design an experiment to test the effects of temperature changes on plants, it may add interest and learning opportunities to select two plants, one that will be affected when the temperature is above freezing and one that can withstand very cold temperatures.

The opening story in Activity 1-21 is a takeoff on *Gulliver's Travels*; it is used to stimulate interest in and appreciate the necessity for standard units in communicating size and distance. If students show interest in what happened to Gulliver, perhaps they can find a simplified version of the story in the school library and can read this in their English class.

CORE B RATIONALE (continued)

The intent in Activity 1-21 is for the student to realize and appreciate a need for measuring and for the use of some common standard in order to communicate.

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

BSCS

ealize and
common

Me and my Environment

UNIT I
CORE B

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ◀ *in the*
be prepared several days or weeks in advance. Use thi
a teaching and preparation schedule. All supplies need

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	(*Italics a*
1-13. Introduction To Sorting Page _____ Date planned _____	White and yellow pages of the phone book Scissors Paste, glue or tape Paper 35mm Slide projector	Worksheet 1-5 Worksheet 1-6 Slide 1-33 Slide 1-34	*Several copies* One pair per s Class supply At least one sh Grocery List A Grocery List B Worksheet 1-5 Worksheet 1-6
1-14. Sorting Things In Our Environment Page _____ Date planned _____	Sturdy paper bag or small box 3" X 5" Index cards Blank 3" X 5" Index cards		*One per studen* About six with About thirty
1-15. Categorizing In Terms Of Living -- Nonliving Page _____ Date planned _____	Strips of paper or cards for labeling tables Overhead projector	Petri dish 10% Nitric acid Mercury Spatula Medicine dropper Potassium dichromate (crystal form)	Three -- Any si Top or bottom h Enough to cover Several good si One One Small amount ne

PLANNING GUIDE

vities (*indicated in italics and an* ↙ *in the margin*) must
ed several days or weeks in advance. Use this summary as
; and preparation schedule. All supplies needed are listed.

BSCS

upplies Needed

Materials in Supply Kit	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
	Several copies
	One pair per student
	Class supply
	At least one sheet per student
Worksheet 1-5	Grocery List A - Not grouped
Worksheet 1-6	Grocery List B - Grouped
Slide 1-33	Worksheet 1-5
Slide 1-34	Worksheet 1-6
	One per student
	About six with criterion written on them
	About thirty
	Three -- Any size possible
Petri dish	Top or bottom half -- Use glass petri dish
10% Nitric acid	Enough to cover bottom of petri dish
Mercury	Several good size droplets
Spatula	One
Medicine dropper	One
Potassium dichromate (crystal form)	Small amount needed

Me and my Environment

UNIT I
CORE B

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ➘ *in*
be prepared several days or weeks in advance. Use
a teaching and preparation schedule. All supplies

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	*(Italic*
1-16. Forming Categories Page _____ Date planned _____		Environmental Rummy Game Spinner cards	Four decks Four
1-17. Review Of Success Page _____ Date planned _____	Ditto master Scissors Paste or glue		One One pair pe Class suppl
➘ 1-18. Temperatures Affect All Living Things Page _____ Date planned _____	Bowls or pie pans Baby food jars Collection of ants Ice String (27" pieces) Nylon net or mesh Rubber bands Container large enough to put hand in		*One per stu* ➘ *One per stu* *At least o* *Five pound* *One per stu* *Enough to c* *Fifteen - t* *Six to eigh*

PLANNING GUIDE

tivities (*indicated in italics and an* ⬉ *in the margin*) must
ared several days or weeks in advance. Use this summary as
ing and preparation schedule. All supplies needed are listed.

BSCS

f Supplies Needed	
Materials in Supply Kit	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
Environmental Rummy Game Spinner cards	Four decks Four
	One One pair per student Class supply
	One per student ⬊ *One per student* *At least one ant per student* *Five pound bag* *One per student* *Enough to cover each baby food jar* *Fifteen - twenty* *Six to eight large containers (gallon or larger)*

Me and my Environment

UNIT I
CORE B

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ◤ *in th*
be prepared several days or weeks in advance. Use thi
a teaching and preparation schedule. All supplies nee

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	(*Italics a*
1-19. Reading A Thermometer Page _____ Date planned _____	Thin cardboard		*One per stude*
	Paste or glue		Class supply
	Red string or yarn		*25" piece per*
	White string or yarn		*25" piece per*
	Stapler		One
	Colored pencils		One per stude
	Scissors		One pair per
	Hole puncher		One
	35mm Slide projector		
		Thermometers	One per stude
		Model of thermometer	One per class
		Worksheet 1-7	Thermometer
		Slide 1-35	Worksheet 1-7
1-20. Temperatures In My Outside Environment Page _____ Date planned _____	Ice		Small amount
	Water		Supply of
	Materials for making a chart to record temperatures for two weeks		*Supplies to m*
		Thermometers	One per pair
		Beakers	Three large (
1-21. Measurement In My Environment Page _____ Date planned _____	String		Large ball
	Rulers		One per stude
	Scissors		One pair per
		Worksheet 1-8	Pre-instructi
		Camera (Polaroid Square Shooter)	

PLANNING GUIDE

ties (*indicated in italics and an* ⬉ *in the margin*) must
several days or weeks in advance. Use this summary as
and preparation schedule. All supplies needed are listed.

BSCS

pplies Needed Materials in Supply Kit	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
	One per student
	Class supply
	25" piece per student
	25" piece per student
	One
	One per student
	One pair per student
	One
Thermometers	One per student
Model of thermometer	One per class
Worksheet 1-7	Thermometer
Slide 1-35	Worksheet 1-7
	Small amount
	Supply of
	Supplies to make one large class chart of temperature
Thermometers	One per pair of students
Beakers	Three large (1000 ml)
	Large ball
	One per student
	One pair per student
Worksheet 1-8	Pre-instruction items for teacher use
Camera (Polaroid Square Shooter)	

Me and my Environment

UNIT I
CORE B

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ☛
be prepared several days or weeks in advance.
a teaching and preparation schedule. All suppl

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	(*It*
1-22. Review Of Success	35mm Slide projector		
	Scissors		One pai
	Stapler		One
Page _____	Strip of paper		*1" wide*
Date planned _____	Paper strips		*One per*
			1" wi
			1" wi
	12" Rulers		One per
		Worksheet 1-9	Plant-A
		Worksheet 1-10	Review
		Slide 1-36	Workshe
		Slide 1-37	Review
		Slide 1-38	Review
		Slide 1-39	Review
		Slide 1-40	Review

PLANNING GUIDE

ies (*indicated in italics and an* ↙ *in the margin*) must
several days or weeks in advance. Use this summary as
and preparation schedule. All supplies needed are listed.

BSCS

pplies Needed	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
Materials in Supply Kit	
	One pair per student
	One
	1" wide X 8 1/2" long
	One per student:
	1" wide X 3 1/2" long
	1" wide X 18" long
	One per student
orksheet 1-9	Plant-Animal Sort Sheet
orksheet 1-10	Review Of Success Questions 1-4
lide 1-36	Worksheet 1-9
lide 1-37	Review Of Success Question 1
lide 1-38	Review Of Success Question 2
lide 1-39	Review Of Success Question 3
lide 1-40	Review Of Success Question 4

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

MATERIALS	TEACHING STRATEGIES
	Activity 1-13. Introduction To Sorting *This activity serves simply as an introduction to show students that grouping can be convenient and useful in organizing materials and ideas about their environment. Through this activity students should develop yet another way to perceive their environment.*

THIS ACTIVITY

re his immediate environment through
iety of sensory experiences and
cal contacts.

nize the environmental components
tial for all living things.

e a greater interest in, and a more
tive attitude toward, his environment.

VES:

re a variety of environmental
nents and examine their properties
haracteristics.

things according to observable
butes, sources, or functions.

EACHING STRATEGIES

roduction To Sorting

s simply as an introduction to show
ing can be convenient and useful in
s and ideas about their environment.
ity students should develop yet another
ir environment.

UNIT I.	EXPLORING MY ENVIRONMENT
CORE B.	INVESTIGATING MY ENVIRONMENT
ACTIVITY 1-13.	INTRODUCTION TO SORTING

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have determined that grouping items facilitates their use.
--have sorted and categorized a grocery list.
--have determined categories for grouping cars in the parking lot.
--have determined how items in the yellow and white pages of the phone book are grouped.
--have recognized some usefulness for grouping things.
--have concluded that things within a group must be alike in at least one way.
--have concluded that grouping helps to make it easier to learn about our environment.

ACTIVITY 1-13

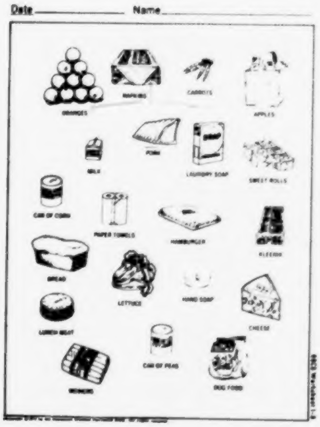
(100)

MATERIALS

Worksheet 1-5 (List A)
Worksheet 1-6 (List B)
*White and yellow pages of the phone book (several copies)
*Scissors
*Paste, glue, or tape
*Paper
Slides 1-33 and 1-34
*35mm Slide projector

Slide 1-33

Worksheet 1-5


Date
Name
ORANGES
NAPKINS
CARROTS
APPLES
MILK
PORK
LAUNDRY SOAP
SWEET ROLLS
CAN OF CORN
PAPER TOWELS
HAMBURGER
BLEACH
BREAD
LETTUCE
HAND SOAP
CHEESE
LUNCH MEAT
CAN OF PEAS
WIENERS
DOG FOOD

*Not furnished in materials kit

TEACHING STRATEGIES

Begin this activity by distributing a copy of List A (Worksheet 1-5) to each student:

Say:

> DO ANY OF YOU KNOW IF YOUR MOTHER USES A GROCERY LIST WHEN SHE GOES TO THE STORE?
>
> LET'S IMAGINE THAT WE ARE GOING ON A SHOPPING TRIP TO THE GROCERY STORE, AND THAT WE ARE GOING TO USE A GROCERY LIST. LOOK AT THE GROCERY LIST JUST HANDED OUT.

Focus attention on the worksheet by projecting Slide 1-33 of Worksheet 1-5.

Read Grocery List A aloud.

Ask:

> IS THERE ANY MEAT ON THE LIST?
>
> WHAT KIND OF MEAT?

(Point to them on the screen.)

> ARE THERE ANY FRUITS ON THE LIST?
>
> DO YOU SEE ANY OTHER FOODS THAT BELONG TOGETHER?

Now hand out List B (Worksheet 1-6) to each student.

Say:

> LOOK AT THIS GROCERY LIST.

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ty by distributing a copy of List A o each student:	
U KNOW IF YOUR MOTHER USES A GROCERY E GOES TO THE STORE?	--respond by raising hands.
E THAT WE ARE GOING ON A SHOPPING ROCERY STORE, AND THAT WE ARE A GROCERY LIST. LOOK AT THE JUST HANDED OUT.	
n the worksheet by projecting Slide 1-33	
A aloud.	
MEAT ON THE LIST?	--study the list and then respond, "Yes."
MEAT?	--respond, "Weiners," "Hamburger," "Pork," "Lunch meat."
the screen.)	
Y FRUITS ON THE LIST?	--respond, "Oranges," "Apples."
NY OTHER FOODS THAT BELONG TOGETHER?	--respond, "Vegetables," "Types of bread."
B (Worksheet 1-6) to each student.	
GROCERY LIST.	

MATERIALS

Slide 1-34

Worksheet 1-6

Date
Name
FLOUR
SUGAR
BAKING POWDER
SAUSAGE
HAM
BACON
STEAK
POTATOES
CABBAGE
ONIONS
ORANGES
BANANAS
TABLET
DOUGHNUTS
KLEENEX
TOILET TISSUE
HOT DOG BUNS
BREAD
BIRTHDAY CARD
ENVELOPES
BSCS Worksheet 1-6

TEACHING STRATEGIES

Focus attention on this by projecting Slide 1-34 of Worksheet 1-6.

Read Grocery List B aloud.

Ask:

IS THERE ANY MEAT ON THE LIST?

WHAT KIND OF MEAT?

Have them pointed out on the screen.

WHAT KINDS OF FRUITS ARE ON THE LIST?

Have them pointed out on the screen.

DO YOU SEE ANY OTHER THINGS ON THE LIST THAT BELONG TOGETHER?

WHAT ARE SOME OF THEM?

WAS IT EASIER TO FIND THINGS THAT BELONG TOGETHER ON LIST A OR LIST B?

WHICH ONE WOULD YOU RATHER TAKE WITH YOU ON YOUR SHOPPING TRIP, LIST A OR LIST B?

WHY WOULD YOU RATHER USE LIST B?

WHAT DO YOU THINK WE SHOULD DO TO LIST A TO MAKE IT A BETTER LIST?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
is by projecting Slide 1-34 of Work-	
loud.	
T ON THE LIST?	--respond, "Yes."
T?	--respond with types of meat on the list.
on the screen.	
UITS ARE ON THE LIST?	--respond with types of fruit on the list.
on the screen.	
THER THINGS ON THE LIST THAT	
	--respond, "Yes."
THEM?	--respond with different categories of items.
FIND THINGS THAT BELONG A OR LIST B?	--respond, "List B."
YOU RATHER TAKE WITH YOU ON YOUR IST A OR LIST B?	--examine the two lists and recognize that since the items on one list are grouped as to where they would be located in the store, List B would be the better one to use.
THER USE LIST B?	--respond, "You wouldn't have to run all over the store to get things," "You'd get done quicker because things are together," etc.
K WE SHOULD DO TO LIST A TO LIST?	--respond, "Change it around," "Group things together," "Straighten it out."

ACTIVITY 1-13
(102)

MATERIALS

TEACHING STRATEGIES

PRETEND THAT YOU HAVE COMPANY COMING FOR DINNER THIS EVENING. YOU HAVE TO SHOP FOR THE FOOD, BUT YOU'RE IN A HURRY SO YOU WON'T HAVE TIME TO GO TO EACH COUNTER SEVERAL TIMES. YOU ARE GOING TO GET THE THINGS ON LIST A, BUT IT NEEDS TO BE CHANGED.

TO MAKE LIST A EASIER AND QUICKER TO USE, YOU WILL HAVE TO CUT OUT THE NAMES AND PICTURES OF EACH ITEM AND PASTE OR TAPE THEM ON A PIECE OF PAPER IN THE ORDER YOU THINK THEY SHOULD BE.

Have scissors, paper, and glue or tape available in a centrally located place.

As the students work, walk around the room to observe how groups are being formed. (If much difficulty is observed, perhaps it would be worthwhile to take a trip to the supermarket to show students how things are arranged on shelves. Do this activity again upon your return.)

When the students have finished reorganizing their lists, have them help you make a composite list on the chalkboard. Do this by asking such questions as:

DOES IT MATTER WHERE WE GO FIRST IN THE STORE?

WHAT SECTION SHOULD WE START AT?

CHING STRATEGIES

U HAVE COMPANY COMING FOR
NING. YOU HAVE TO SHOP FOR
OU'RE IN A HURRY SO YOU WON'T
TO EACH COUNTER SEVERAL TIMES.
GET THE THINGS ON LIST A,
BE CHANGED.

EASIER AND QUICKER TO USE, YOU
T OUT THE NAMES AND PICTURES
D PASTE OR TAPE THEM ON A PIECE
ORDER YOU THINK THEY SHOULD BE.

, and glue or tape available in a
ace.

, walk around the room to observe how
med. (If much difficulty is observed,
orthwhile to take a trip to the super-
nts how things are arranged on shelves.
in upon your return.)

ve finished reorganizing their lists,
ake a composite list on the chalk-
sking such questions as:

HERE WE GO FIRST IN THE STORE?

ULD WE START AT?

ANTICIPATED STUDENT BEHAVIORS

Students:

--rearrange items on List A by cutting out the pictures and pasting them to a piece of paper so they are grouped in the order they might more conveniently be found at the grocery store.

--respond, "Doesn't matter," "You can start anywhere."

--respond by suggesting a section of the supermarket to begin the shopping list.

MATERIALS

TEACHING STRATEGIES

WHAT THINGS ON OUR LIST MIGHT WE FIND AT THAT COUNTER?

List the items on the chalkboard that you would find at this counter.

WHAT COUNTER SHOULD WE GO TO NEXT?

WHAT THINGS ON OUR LIST MIGHT WE FIND THERE?

List the items on the chalkboard that you would find at this counter.

Continue with this same strategy until all items on List A have been discussed and grouped.

GIVE SEVER
STUDENTS A C
TO RESPO

Then ask:

HOW DID GROUPING THINGS IN LIST A HELP US?

WHAT WOULD HAPPEN IF THE GROCER DIDN'T GROUP THINGS?

CAN YOU THINK OF OTHER THINGS AT HOME OR AT SCHOOL THAT WE PUT IN GROUPS?

St

--

--

--

--

--

--

ACTIVITY 1-13

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
UR LIST MIGHT WE FIND AT THAT .	--suggest a special counter for a group of their shopping items (bread, meat, produce, etc.).
e chalkboard that you would find at	
ULD WE GO TO NEXT?	--suggest another counter to go to.
UR LIST MIGHT WE FIND THERE?	--name items from their list they might find there.
e chalkboard that you would find at	
ame strategy until all items on List A nd grouped.	
G THINGS IN LIST A HELP US?	--respond, "It helped us to save time," "Saved steps," "Helps us find things easier," etc.
EN IF THE GROCER DIDN'T GROUP	--respond, "We'd have to look and look for things," "He might need more spaces," "He couldn't keep track of what he has in the store,"
F OTHER THINGS AT HOME OR AT UT IN GROUPS?	--respond with many groups such as books in the library, things in our kitchen, clothes in our closets and drawers, art supplies, etc.

GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

MATERIALS

TEACHING STRATEGIES

Then say:

> THERE IS A PARKING LOT FULL OF CARS OUTSIDE THE SCHOOL. IF WE WANTED TO PUT THESE CARS INTO GROUPS, WHAT KIND OF GROUPS COULD WE USE?

> WE HAVE SEEN THAT GROCERS AND CAR MANUFACTURERS PUT THINGS INTO GROUPS. CAN YOU THINK OF OTHER PLACES THAT GROUP THINGS?

> WHY DO THEY PUT THINGS INTO GROUPS?

Distribute several copies of the white and yellow pages of the phone book and say:

DISTRIBUTE MA

> LOOK AT THESE PHONE BOOKS CAREFULLY. TRY TO SEE IF YOU CAN FIGURE OUT HOW THINGS ARE GROUPED IN THE WHITE PAGES AND HOW THEY ARE GROUPED IN THE YELLOW PAGES.

Depending on how many copies are available, several students might have to look together at the same book.

DON'T ASK
QUESTION
HERE

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
G LOT FULL OF CARS OUTSIDE E WANTED TO PUT THESE CARS KIND OF GROUPS COULD WE USE?	--suggest makes of cars such as Ford, Dodge, Chevrolet, GMC, Plymouth; color; size; two-door, four-door; sports cars, pickups, sedans, etc.
GROCERS AND CAR MANUFACTURERS ROUPS. CAN YOU THINK OF OTHER THINGS?	--respond, "Drugstore," "Department stores," "Service stations," etc.
HINGS INTO GROUPS?	--respond, "To help them find things," "So they know what they have," etc.
ies of the white and yellow pages say:	
DISTRIBUTE MATERIALS	
NE BOOKS CAREFULLY. TRY TO GURE OUT HOW THINGS ARE GROUPED S AND HOW THEY ARE GROUPED IN	--examine phone books and try to determine the basis for various groupings.
copies are available, several look together at the same book.	

DON'T ASK LEADING QUESTIONS HERE

MATERIALS	TEACHING STRATEGIES
	 When the students have had ample time to examine the books ask: HOW WERE THE THINGS LISTED IN THE WHITE PAGES GROUPED? WHY DO YOU THINK THEY WERE GROUPED THIS WAY? HOW WERE THE THINGS LISTED IN THE YELLOW PAGES? WHY WERE THEY GROUPED THIS WAY? HOW DO PEOPLE GO ABOUT DECIDING HOW TO GROUP OR SORT THINGS? WOULD IT BE EASIER TO LEARN ABOUT THINGS IN OUR ENVIRONMENT IF THINGS WERE GROUPED?

HAVE YOU INVOLVED ALL STUDENTS?

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
have had ample time to examine the books	
THINGS LISTED IN THE WHITE PAGES	--respond, "By the alphabet," "By the person's last name," "By names."
HINK THEY WERE GROUPED THIS WAY?	--respond, "To make it easier to find a number," "So you could look something up quicker."
THINGS LISTED IN THE YELLOW	--respond, "By the alphabet," "By what they were," "By what they did for people."
Y GROUPED THIS WAY?	--respond, "To make it easier and quicker to find what you were looking for."
E GO ABOUT DECIDING HOW TO GROUP GS?	--conclude that items are grouped together because they are alike in some way.
EASIER TO LEARN ABOUT THINGS IN ENT IF THINGS WERE GROUPED?	--respond, "Yes."

ACTIVITY 1-13: "Introduction To Sorting"

Activity name suggested by class:

Teacher
BSCS USE: Post ____ Tally ____ Rev ____

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

HIGH INTEREST → ________ ________ ________ ________

STRONG DISLIKE → ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is
☐ Of value--needs the revision suggested
☐ Worth salvaging--make major changes described
☐ Worthless --drop it

8. Materials used:	Worksheet			Game	Slides (show	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

---

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Were any students unable to arrange the items on List A into meaningful groups?
☐ No ☐ Yes: How many? ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.

18. Were most students able to suggest categories for grouping other items, e.g., cars?
☐ Yes ☐ No: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

BSCS Evaluation: **EMH Feedback Form 1c**

UNIT I, CORE B
ACTIVITY 1-13: "Introduction To Sorting"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.
☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.

2. Group things according to observable attributes, sources, or functions.

MATERIALS

TEACHING STRATEGIES

Activity 1-14. Sorting Things In Our Environment

As a continuation of the previous activity, the students will now collect and categorize objects from their environment. They will realize that objects display many characteristics and therefore can be grouped according to different criteria. In addition, the activity will increase the students' environmental awareness.

FOR THIS ACTIVITY

xplore his immediate environment through variety of sensory experiences and ysical contacts.

reate a greater interest in, and a more nsitive attitude toward, his environment.

ECTIVES:

xplore a variety of environmental mponents and examine their properties nd characteristics.

roup things according to observable tributes, sources, or functions.

TEACHING STRATEGIES

Sorting Things In Our Environment

n of the previous activity, the students t and categorize objects from their hey will realize that objects display stics and therefore can be grouped fferent criteria. In addition, the ncrease the students' environmental

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-14. SORTING THINGS IN OUR ENVIRONMENT

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have collected four objects from his environment that meet certain criteria.*
- *--have participated in guessing categories used to group objects.*
- *--be able to explain why items were grouped in a certain way.*

ACTIVITY 1-14

MATERIALS

*Sturdy paper bag (grocery bag) or small box for each student
*Search cards: 3" X 5" index cards with the following written on them:

hard, soft
will bend, will not bend
rough, smooth
has many colors, one color
light, heavy
round, square
short, long
thin, fat
etc.

*3" X 5" Index cards (about 30)

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Prepare the search cards by writing one of the following words or phrases on each 3" X 5" card: hard, soft, will bend, rough, smooth, has many colors, light, flat, round, heavy, short, long, thin, fat, man-made, etc. Recall Activity 1-4 in Core A where students were given search cards to look for things in their environment. The categories listed in that activity might provide suggestions for more words or phrases to put on the cards in this activity.

2. Check with your administration to be sure it is permissable for you to take your class outside.

Begin by saying:

YESTERDAY WE DECIDED THAT PEOPLE HAD MANY DIFFERENT REASONS FOR GROUPING THINGS. WHERE WERE SOME PLACES WE FOUND THINGS GROUPED?

TODAY WE ARE GOING TO COLLECT THINGS FROM OUR OUTSIDE ENVIRONMENT AND PRACTICE MAKING OUR OWN GROUPS.

HOW DO PEOPLE KNOW WHAT GROUP TO PUT THINGS IN?

Now divide the class into groups of three. Distribute a card that contains a category to each group. Explain that the cards must be kept secret because they will be used later in a guessing game.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
tion: he search cards by writing one of the words or phrases on each 3" X 5" card: t, will bend, rough, smooth, has many ight, flat, round, heavy, short, long, , man-made, etc. Recall Activity 1-4 where students were given search cards or things in their environment. The s listed in that activity might pro- estions for more words or phrases to e cards in this activity.	
h your administration to be sure it is le for you to take your class outside.	
:	
WE DECIDED THAT PEOPLE HAD MANY REASONS FOR GROUPING THINGS. WHERE PLACES WE FOUND THINGS GROUPED?	--recall the previous activity and respond, "Grocery stores," "Library," "Phone books," "At home," "Closets," etc.
RE GOING TO COLLECT THINGS FROM OUR VIRONMENT AND PRACTICE MAKING OUR .	
PLE KNOW WHAT GROUP TO PUT THINGS IN?	--respond, "They look at the way they are alike," "They're the same color, shape," "They have the same name."
class into groups of three. Distribute a ins a category to each group. Explain that be kept secret because they will be used sing game.	

MATERIALS

TEACHING STRATEGIES

Say:

> WE ARE GOING TO WORK IN GROUPS SO WE CAN HELP EACH OTHER. EACH GROUP WILL HAVE A SECRET CARD. THE CARD WILL TELL YOU WHAT KINDS OF THINGS TO LOOK FOR. FOR EXAMPLE, IF MY CARD SAID LONG, WHAT MIGHT I COLLECT?
>
> EACH OF THE PERSONS IN THE GROUP MUST COLLECT AT LEAST FOUR THINGS THAT CAN BE DESCRIBED BY THE WORD ON THEIR CARD. THAT MEANS THAT EACH GROUP WILL HAVE COLLECTED TWELVE OBJECTS BY THE TIME THEY RETURN TO THE CLASSROOM.

Direct the students to proceed outside and begin to collect their materials. Remind them not to show anyone outside their group what their card says. Rules for outside behavior might also need to be reviewed.

COLLECTION TI

When the students have returned to the room, have each group display their collection of objects on a table with their card placed upside down on the table beside their display.

Now distribute about six 3" X 5" cards to each group of students. These cards will be used to record guesses.

Allow groups to circulate to each table and carefully examine each other's collection.

ENCOURAGE DISCUSS

Stu

--r

--p

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ING TO WORK IN GROUPS SO WE CAN HELP R. EACH GROUP WILL HAVE A SECRET E CARD WILL TELL YOU WHAT KINDS OF LOOK FOR. FOR EXAMPLE, IF MY CARD , WHAT MIGHT I COLLECT?	--respond, "Stick," "Twig," "Blade of grass," etc.
HE PERSONS IN THE GROUP MUST COLLECT FOUR THINGS THAT CAN BE DESCRIBED RD ON THEIR CARD. THAT MEANS THAT P WILL HAVE COLLECTED TWELVE OBJECTS ME THEY RETURN TO THE CLASSROOM.	
dents to proceed outside and begin to collect s. Remind them not to show anyone outside at their card says. Rules for outside also need to be reviewed.	
COLLECTION TIME	
nts have returned to the room, have each their collection of objects on a table with ced upside down on the table beside their	--place their collection on the table.
about six 3" X 5" cards to each group of se cards will be used to record guesses.	
o circulate to each table and carefully ther's collection.	
ENCOURAGE DISCUSSION	

ACTIVITY 1-14
(110)

MATERIALS

TEACHING STRATEGIES

As each group comes to the tables, tell them to make a guess about why the objects were put together. They shoul try to match whatever criterion was on the card originally given to that group. Each group should write their guess on a new card and place it also upside down on the table. Then proceed to the next collection. (Each group should decide on one guess rather than for every student to make a separate guess.)

When the students have finished examining each collection and have made their guesses, they should return to their desks.

Focus the students' attention on one collection at a time. Ask:

IN HOW MANY WAYS ARE THESE THINGS ALIKE?

GIVE TIME TO THIN

GIV STUDE TO

Then one at a time hold up the cards that were turned face down on the table containing student guesses. Ask if that word tells one way in which the things in that collection are alike. If a word selected is not descriptive of the entire collection, have a student point out why, i.e., "The word says soft and this rock is not soft," etc.

CHING STRATEGIES

o the tables, tell them to make a
bjects were put together. They should
criterion was on the card originally
Each group should write their guess
ce it also upside down on the table.
ext collection. (Each group should
ather than for every student to make

ve finished examining each collection
uesses, they should return to their

ttention on one collection at a time.

ARE THESE THINGS ALIKE?

GIVE STUDENTS
TIME
TO
THINK

GIVE SEVERAL
STUDENTS A CHANCE
TO RESPOND

ld up the cards that were turned face
ntaining student guesses. Ask if that
which the things in that collection
selected is not descriptive of the
ave a student point out why, i.e.,
nd this rock is not soft," etc.

ANTICIPATED STUDENT BEHAVIORS

Students:

--guess the criteria used in collecting objects and write the guesses on blank cards.

--place the cards containing their guesses upside down on the table beside the appropriate collection.

--describe similarities of the various objects.

MATERIALS	TEACHING STRATEGIES
	Always allow the group who used the word the opportunity to explain why they chose it. Continue questioning until the criteria for grouping are correctly identified. Encourage students to question and challenge the placement of objects into various groups. After discussing each guess, ask: COULD THESE ITEMS BE GROUPED ANY OTHER WAY? After sufficient discussion time, culminate the activity by asking: IS THERE ALWAYS A BEST WAY TO PUT YOUR OBJECTS INTO GROUPS? THERE ARE MANY WAYS THAT DIFFERENT OBJECTS CAN BE GROUPED, DEPENDING ON THE REASON FOR GROUPING THEM. FOR EXAMPLE, WHY WOULD IT NOT BE A GOOD IDEA FOR A DEPARTMENT STORE TO GROUP OBJECTS BY COLOR? IN OUR NEXT ACTIVITY WE WILL FIND ANOTHER WAY WE CAN GROUP THINGS. If time allows and interest warrants, students can use these cards again to try to regroup the objects they have collected.

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
p who used the word the opportunity hose it.	--determine whether or not chosen words are descriptive of the collection.
until the criteria for grouping are Encourage students to question and nt of objects into various groups.	
guess, ask:	
S BE GROUPED ANY OTHER WAY?	--suggest dividing the group of objects into metal-nonmetal, hard-soft, light-heavy, etc.
ussion time, culminate the activity	
A BEST WAY TO PUT YOUR OBJECTS	--respond, "no."
AYS THAT DIFFERENT OBJECTS CAN NDING ON THE REASON FOR GROUPING LE, WHY WOULD IT NOT BE A GOOD TMENT STORE TO GROUP OBJECTS	--respond, "You wouldn't know where to find things," "Some things come in many colors," etc.
VITY WE WILL FIND ANOTHER WAY NGS.	
terest warrants, students can use these regroup the objects they have	

UNIT 1, CORE B

ACTIVITY 1-14: "Sorting Things In Our Environment"

Activity name suggested by class:

Teacher
BSCS USE: Post ___ Tally ___ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile ☐ Of value--needs the ☐ Worth

	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
    ☐ Worthwhile --keep as is
    ☐ Of value--needs the revision suggested
    ☐ Worth salvaging--make major changes described
    ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did you add search card categories which were effective (other than the ones listed)?
☐ No ☐ Yes: If so, name them.

18. Did any groups have difficulty finding enough items that fit their search card?
☐ No ☐ Yes: Which categories?

19. Were most groups of students able to guess categories of the items exhibited on the tables? ☐ Yes ☐ No: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: EMH Feedback Form 1c

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE B

ACTIVITY 1-14: "Sorting Things In Our Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.

☐ things added (a question, a picture, etc.).

☐ equipment, supplies, visual aids.

☐ things that went wrong, misunderstandings.

☐ what you would do differently
or avoid next time.

THE STUDENTS

☐ who had problems and what they were.

☐ how someone "caught on" (or who never did).

☐ who was really "turned off" (or on).

☐ reactions of parents, teachers, students.

☐ special evidence of learning or
applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.

CORE B OBJECTIVES:

2. Group things according to observable attributes, sources, or functions.
4. Determine new relationships he has with his environment.

MATERIALS	TEACHING STRATEGIES
	Activity 1-15. Categorizing In Terms Of Living-Nonliving *In this activity students will categorize their collections according to the source from which they originated. In so doing they will distinguish between living and nonliving components of their environment and also determine that grouping systems may change as new knowledge is acquired.*

THIS ACTIVITY

re his immediate environment through
iety of sensory experiences and
cal contacts.

nize the environmental components
tial for all living things.

VES:

things according to observable
butes, sources, or functions.

mine new relationships he has with
nvironment.

UNIT I. EXPLORING MY ENVIRONMENT

BSCS

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-15. CATEGORIZING IN TERMS OF LIVING-NONLIVING

ACHING STRATEGIES

egorizing In Terms Of Living-Nonliving

udents will categorize their collec-
the source from which they originated.
ll distinguish between living and
s of their environment and also
ping systems may change as new know-

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have participated in grouping objects according to their sources: (Plants -- living, nonliving; Animals -- living, nonliving; Things that never lived.)*
- *--have observed the mercury amoeba demonstration.*
- *--have decided whether the object in the demonstration was living or nonliving.*
- *--have concluded that it helps to know about an object before you try to place it in a group.*
- *--have associated certain traits with living things.*
- *--have learned the meaning of nonliving.*

ACTIVITY 1-15

MATERIALS

*3 Strips of paper or cards for labeling tables (any size will do)
*Overhead projector
Petri dish (top or bottom half)
10% Solution of nitric acid
Small amount of mercury
Small spatula
Medicine dropper
Potassium dichromate (crystal form)

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Prepare three labels and place them on different tables in the classroom. The labels should read as follows:

   From Things That Never Lived, From Plants (living and nonliving), From Animals (living and nonliving).

2. Set up the mercury amoeba demonstration as directed prior to the beginning of the second portion of this activity. Try it to become familiar with the equipment and procedure.

Begin by asking:

HOW DID WE GROUP OUR COLLECTION OF OBJECTS YESTERDAY?

TODAY WE'RE GOING TO GROUP THEM ACCORDING TO WHERE THEY CAME FROM.

YOU WILL NOTICE THAT I HAVE PUT SOME LABELS ON THESE TABLES.

Choose a student to read the labels. After each label is read, ask the appropriate questions:

HAS A ROCK EVER LIVED?

WHAT ARE SOME OTHER THINGS THAT HAVE NEVER LIVED?

WHERE DOES PAPER COME FROM?

IS A TREE A PLANT?

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
tion:	
hree labels and place them on different the classroom. The labels should read s:	
gs That Never Lived, From Plants (living ving), From Animals (living and nonliving).	
e mercury amoeba demonstration as directed the beginning of the second portion of this Try it to become familiar with the equip- procedure.	
:	
GROUP OUR COLLECTION OF OBJECTS	--recall the previous activity and respond, "By how they looked," "By how they felt," etc.
E GOING TO GROUP THEM ACCORDING TO CAME FROM.	
OTICE THAT I HAVE PUT SOME LABELS ABLES.	
t to read the labels. After each label is ppropriate questions:	
EVER LIVED?	--respond, "No."
OME OTHER THINGS THAT HAVE NEVER LIVED?	--respond, "Scissors," "Wastebasket," "Cans," etc.
PAPER COME FROM?	--respond, "Trees."
A PLANT?	--respond, "Yes."

MATERIALS

TEACHING STRATEGIES

WHAT ARE SOME OTHER THINGS THAT CAN COME FROM PLANTS?

ARE PLANTS LIVING THINGS?

After each response, have the student tell you if that object is living or nonliving.

WHAT ARE SOME THINGS THAT COME FROM ANIMALS?

ARE ANIMALS LIVING THINGS?

WHAT ARE SOME DIFFERENCES BETWEEN THINGS THAT WERE ONCE LIVING BUT ARE NOW DEAD AND THINGS THAT NEVER LIVED?

WHAT DO LIVING THINGS DO THAT NONLIVING THINGS CANNOT DO? or WHAT WOULD YOU LOOK FOR TO TELL IF SOMETHING IS ALIVE?

Probe with questions until students name at least grow, eat, and move. List these traits on the chalkboard as they are given. If reproduction has not been identified as a characteristic of living things, ask:

WHERE DO LIVING THINGS COME FROM?

WHERE DO BABY LIVING THINGS COME FROM?

WHERE DO NONLIVING THINGS COME FROM?

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OTHER THINGS THAT CAN COME FROM	--respond, "Pencils," "Tables," "Twigs," "String," etc.
VING THINGS?	--respond, "Yes."
e, have the student tell you if that r nonliving.	
THINGS THAT COME FROM ANIMALS?	--respond, "Meat," "Shoes," "Leather goods," "Some clothes."
IVING THINGS?	--respond, "Yes."
DIFFERENCES BETWEEN THINGS THAT ING BUT ARE NOW DEAD AND THINGS VED?	--respond, "Only living things can die," "Nonliving things have never been alive," "Do not come from plants or animals."
G THINGS DO THAT NONLIVING THINGS WHAT WOULD YOU LOOK FOR TO TELL S ALIVE?	--identify traits such as move by themselves, grow, breathe, eliminate wastes, die, eat, etc.
ns until students name at least grow, st these traits on the chalkboard as f reproduction has not been identified c of living things, ask:	
NG THINGS COME FROM?	--respond, "Babies," "Little living things," "Other living things."
LIVING THINGS COME FROM?	--respond, "Their parents," "Other things," "Other living things."
IVING THINGS COME FROM?	--respond, "They're made in factories," "They're built."

MATERIALS

TEACHING STRATEGIES

DO NONLIVING THINGS HAVE BABIES?

Now allow the students to place the items their group collected the previous day on the appropriate tables according to where they came from.

When they have finished ask:

WAS IT EASY TO TELL WHICH THINGS HAVE NEVER LIVED?

WHAT THINGS DO WE HAVE ON OUR TABLE THAT ARE LABELED NEVER LIVED?

Encourage students to agree and disagree with the group made, stating their reasons for disagreement. If the class agrees an object should be changed to another gro move it to the appropriate table.

Continue with the above strategy for each category, all ing students to make decisions.

Then ask:

IS IT ALWAYS EASY TO TELL LIVING THINGS FROM NONLIVING THINGS?

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
THINGS HAVE BABIES?	--respond, "No."
dents to place the items their group vious day on the appropriate tables e they came from.	
WORK TIME	
nished ask:	
TO TELL WHICH THINGS HAVE NEVER	--respond, "Yes," "No," "Sometimes."
DO WE HAVE ON OUR TABLE THAT ARE R LIVED?	--name the items so placed.
ASK FOR OTHER IDEAS	
s to agree and disagree with the groupings ir reasons for disagreement. If the bject should be changed to another group, propriate table.	
above strategy for each category, allow- ake decisions.	
EASY TO TELL LIVING THINGS FROM INGS?	--respond with their various opinions.

MATERIALS

TEACHING STRATEGIES

I AM GOING TO SHOW YOU SOMETHING NOW THAT YOU WILL NEED TO WATCH VERY CAREFULLY.

Proceed with the following demonstration:

NOTE: It is imperative that everything be set up ahead of time, and that you rehearse the demonstration before giving it in class. Caution must be used when handling these chemicals.

Since a small amount of mercury vaporizes in the acid, be sure that you have adequate ventilation. With a little care, however, the demonstration can be handled very safely. The demonstration should be projected on a screen or wall with an overhead projector.

Use the nitric acid solution in the kit or make up your own by pouring 1 part concentrated nitric acid into 10 parts of water. Do not pour the water into the acid, for it may spatter on you. Take care not to spill any of the acid solution. If by accident you do, thoroughly wash the area of contact with water.

Begin the demonstration by placing the petri dish on the overhead and saying:

I'M GOING TO PUT SOME LIQUID IN THIS DISH.

Pour a quarter of an inch of dilute nitric acid in the petri dish. Do not tell the students what the liquid is.

WATCH WHILE I ADD SOMETHING TO THE DISH.

Without allowing the students to see the mercury, use the medicine dropper to place a droplet of mercury into the acid in the petri dish.

NOW I'M ADDING SOMETHING ELSE TO THE DISH. I'M GOING TO CALL IT FOOD.

EACHING STRATEGIES

SHOW YOU SOMETHING NOW THAT YOU
/ATCH VERY CAREFULLY.

ollowing demonstration:

ative that everything be set up ahead
i that you rehearse the demonstration
ng it in class. Caution must be used
ng these chemicals.

nt of mercury vaporizes in the acid, be
adequate ventilation. With a little
demonstration can be handled very safely.
should be projected on a screen or wall
rojector.

l solution in the kit or make up your own
oncentrated nitric acid into 10 parts
our the water into the acid, for it may
ake care not to spill any of the acid
ccident you do, thoroughly wash the area
ter.

ation by placing the petri dish on the
g:

UT SOME LIQUID IN THIS DISH.

an inch of dilute nitric acid in the
t tell the students what the liquid is.

ADD SOMETHING TO THE DISH.

he students to see the mercury, use the
o place a droplet of mercury into the
lish.

G SOMETHING ELSE TO THE DISH. I'M
IT FOOD.

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-15
(118)

MATERIALS

TEACHING STRATEGIES

Sprinkle a few crystals of potassium dichromate around the mercury droplet(s). The mercury will start to move, split into two or three droplets, and give off a black residue as a result of the reaction. The disappearance of the orange potassium dichromate and the appearance of the black mercuric oxide give the illusion of something being eaten and something given off as waste.

Then ask:

> FROM WHAT YOU HAVE JUST SEEN, DO YOU THINK THIS IS LIVING OR NONLIVING?
>
> WHY DO YOU THINK IT IS LIVING (OR NONLIVING)?

Allow ample time for discussion of this problem. Studen will probably decide it is living because it eats (the potassium dichromate crystals disappearing), moves, spli (reproduces), gives off wastes (the black residue), etc. Discuss these traits as indications of life by referring to the list you developed earlier.

GI
STUD
T

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
tals of potassium dichromate around (s). The mercury will start to move, hree droplets, and give off a black of the reaction. The disappearance sium dichromate and the appearance of oxide give the illusion of something nething given off as waste.	
HAVE JUST SEEN, DO YOU THINK THIS ONLIVING?	--guess either category.
NK IT IS LIVING (OR NONLIVING)?	--associate the image observed with characteristics of living things that have been listed previously on the chalkboard and infer that it is living or nonliving.
r discussion of this problem. Students le it is living because it eats (the e crystals disappearing), moves, splits off wastes (the black residue), etc. s as indications of life by referring veloped earlier.	

GIVE SEVERAL
STUDENTS A CHANCE
TO RESPOND

DON'T ASK LEADING QUESTIONS HERE

MATERIALS

TEACHING STRATEGIES

After ample discussion say:

> TOMORROW I AM GOING TO TELL YOU WHAT I PUT IN THE LIQUID. I WANT YOU TO THINK ABOUT WHAT YOU HAVE SEEN AND TRY TO DECIDE IF IT WAS LIVING OR NONLIVING. THINK ABOUT HOW YOU COULD FIND OUT FOR SURE.

NOTE: Directions for disposal of demonstration materials are given at the end of this activity.

The next day ask:

> WHAT HAVE YOU DECIDED ABOUT THE THING YOU SAW YESTERDAY? HOW MANY OF YOU DECIDED THAT IT WAS LIVING? WHY?
>
> HOW MANY OF YOU DECIDED THAT IT WAS NONLIVING? WHY?
>
> WATCH WHILE I DO THE DEMONSTRATION AGAIN. THE LIQUID IN THE DISH IS NOT WATER. IT IS SOMETHING CALLED ACID. THE LITTLE THING I PUT IN THE DISH IS A DROP OF MERCURY. MERCURY IS A LIQUID METAL, THE SAME STUFF THAT YOU FIND IN MANY THERMOMETERS. THE STUFF I CALLED FOOD IS A CHEMICAL CALLED POTASSIUM DICHROMATE. IT IS A POISON.

Repeat the demonstration. Allow the students to look at the demonstration setup.

OBSERVATION

CHING STRATEGIES

n say:

DING TO TELL YOU WHAT I PUT IN
ANT YOU TO THINK ABOUT WHAT YOU
Y TO DECIDE IF IT WAS LIVING
HINK ABOUT HOW YOU COULD FIND

disposal of demonstration materials
he end of this activity.

CIDED ABOUT THE THING YOU SAW
MANY OF YOU DECIDED THAT IT
?

DECIDED THAT IT WAS NONLIVING?

THE DEMONSTRATION AGAIN. THE
ISH IS NOT WATER. IT IS SOME-
D. THE LITTLE THING I PUT IN
ROP OF MERCURY. MERCURY IS A
HE SAME STUFF THAT YOU FIND IN
RS. THE STUFF I CALLED FOOD IS
ED POTASSIUM DICHROMATE. IT IS

tion. Allow the students to look at
tup.

OBSERVATION TIME

ANTICIPATED STUDENT BEHAVIORS

Students:

--raise hands and indicate the properties of movement, seeming reproduction, feeding, and growing that relate to life.

--raise hands and indicate reasons for determining that the object was nonliving.

--observe actual materials used.

MATERIALS

TEACHING STRATEGIES

DO YOU THINK THAT THE DROP OF MERCURY WAS REALLY LIVING?

Many of the students are likely to think that the mercury was living when placed in contact with the acid and potassium dichromate. If so, explain again what the actual materials are.

Repeat the earlier questions:

IS IT EASY TO TELL IF SOMETHING IS LIVING OR NONLIVING?

CAN OUR SENSE OF SIGHT BE FOOLED?

HERE IS A CARD WITH "MERCURY" PRINTED ON IT. WHICH ONE OF OUR TABLES WOULD YOU PUT IT ON?

Direct a student to do so.

BEFORE WE KNEW WHAT THE OBJECT IN THE DEMONSTRATION WAS, WHERE WOULD WE HAVE GROUPED IT?

AFTER WE KNEW WHAT THE OBJECT WAS, AND WHAT IT WAS MADE OF, WHERE DID WE GROUP IT?

WHAT DO WE HAVE TO KNOW BEFORE WE CAN GROUP THINGS CORRECTLY?

SHOULD YOU BELIEVE EVERYTHING YOU SEE?

G STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
DROP OF MERCURY WAS	--infer that it is not living at all.
ikely to think that the mercury contact with the acid and so, explain again what the actual	
ns:	
SOMETHING IS LIVING OR	--indicate that because things are not always what they seem to be it is not always easy to tell if something is living or nonliving.
T BE FOOLED?	--respond, "Yes."
'MERCURY" PRINTED ON IT. LES WOULD YOU PUT IT ON?	--respond, "On the 'never lived' table."
HE OBJECT IN THE HERE WOULD WE HAVE	--respond, "On the animal table."
HE OBJECT WAS, AND WHAT DID WE GROUP IT?	--respond, "On the 'never lived' table."
NOW BEFORE WE CAN GROUP	--conclude that you need to know what an object is made of, what it is, what it does, etc., before you can correctly place it in a group.
ERYTHING YOU SEE?	--conclude that seeing may not be believing and that one should question beyond sight alone.

MATERIALS	TEACHING STRATEGIES
	CAUTION: When you have completed your demonstration, slowly and carefully run water into the petri dish to flush out the acid and dichromate. The mercury will remain in the bottom because of its weight. Pour off the water and place the mercury in a vial, close it tightly, and store it for future use. You can clear off excess dichromate by running the mercury over paper towels several times. DO NOT CONTAMINATE THE ENVIRONMENT!

STRATEGIES

pleted your demonstration,
ily run water into the petri
the acid and dichromate.
remain in the bottom because
our off the water and place
vial, close it tightly, and
re use. You can clear off
by running the mercury over
ral times. DO NOT CONTAMINATE

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-15: "Categorizing In Terms Of Living-Nonliving"

Activity name suggested by class:

Teacher			
BSCS USE:	Post ____	Tally ____	Rev ____

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1. Date taught (month and date, e.g. 11/2)						
2. Minutes of class time on science each day						
3. Minutes of preparation each day						
4. Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with:	(Number)	Name students you noted especially:
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	Worksheet #	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Transparency #	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

BSCS Evaluation: EMH Feedback Form 1c

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did students have difficulty categorizing any of the items they had collected as living or nonliving?
☐ No ☐ Yes: What items?

18. After the first mercury demonstration, did any students think that the "stuff" was not alive?
☐ No ☐ Yes: Who?

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE B

ACTIVITY 1-15: "Categorizing In Terms Of Living-Nonliving"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

MATERIALS

4 Decks of *Environmental Rummy*
1 Spinner card containing two wheels

TEACHING STRATEGIES

Activity 1-16. Forming Categories

This activity provides further practice in forming categories. It will also demonstrate that grouping is an arbitrary activity practiced by people and that the same items can be placed in a number of different categories. It also serves as an evaluation of the understanding your students have of grouping.

Teacher Preparation:

Play this game with another staff member or family member before presenting it to the students. This will prepare you for the questions the students may ask:

Begin by saying:

WHAT DOES ENVIRONMENT MEAN?

THIS ACTIVITY

ore his immediate environment through
riety of sensory experiences and
ical contacts.

IVES:

ore a variety of environmental
onents and examine their properties
characteristics.

p things according to observable
ibutes, sources, or functions.

EACHING STRATEGIES

rming Categories

vides further practice in forming
ll also demonstrate that grouping is
vity practiced by people and that the
placed in a number of different cate-
erves as an evaluation of the under-
dents have of grouping.

on:

h another staff member or family member
it to the students. This will prepare
ions the students may ask:

VIRONMENT MEAN?

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-16. FORMING CATEGORIES

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--*have played* Environmental Rummy.
--*have concluded that the same environmental components may be placed in different categories.*

Students:

--recall and respond, "Things around us."

MATERIALS

TEACHING STRATEGIES

TODAY WE ARE GOING TO PLAY A GAME CALLED ENVIRONMENTAL RUMMY. WHAT IS RUMMY?

HOW MANY OF YOU HAVE EVER PLAYED RUMMY?

ENVIRONMENTAL RUMMY IS SIMILAR TO THE RUMMY CARD GAME SOME OF YOU ALREADY KNOW HOW TO PLAY. I WILL EXPLAIN THE RULES AND THEN PLAY THE GAME WITH TWO OF YOU TO SHOW THE REST OF THE CLASS HOW IT SHOULD BE PLAYED. THEN WE WILL ALL PLAY THE GAME.

BEFORE WE BEGIN LET'S TAKE A LOOK AT THE SPINNING WHEELS.

It is important that students can read and know the mear of each group. Therefore, write each word on the chalk- board, one at a time, and ask:

WHAT DOES THIS WORD SAY?

WHAT DOES THIS WORD MEAN?

WHAT ARE SOME THINGS THAT WE MIGHT PUT IN THAT GROUP?

If the students do not know how to read a particular wor or know its meaning, tell them, and proceed to naming objects that fit the group.

When the students have talked about each group, you may want to have them read the words a second or third time, skipping quickly from word to word asking, "WHAT DOES THIS SAY?"

When you have finished reviewing the words, allow the students to take turns spinning the two wheels and readi

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
NG TO PLAY A GAME CALLED MMY. WHAT IS RUMMY?	--respond, "A card game," "I don't know."
AVE EVER PLAYED RUMMY?	--raise hands.
MMY IS SIMILAR TO THE RUMMY F YOU ALREADY KNOW HOW TO PLAIN THE RULES AND THEN TH TWO OF YOU TO SHOW THE S HOW IT SHOULD BE PLAYED. PLAY THE GAME.	
LET'S TAKE A LOOK AT THE	
students can read and know the meaning fore, write each word on the chalk- and ask:	
ORD SAY?	--read the word that has been written on the chalkboard.
ORD MEAN?	--define the word in their own terminology.
INGS THAT WE MIGHT PUT IN THAT	--list some items that could be logically placed in that group.
t know how to read a particular word tell them, and proceed to naming group.	
e talked about each group, you may d the words a second or third time, word to word asking, "WHAT DOES	
d reviewing the words, allow the s spinning the two wheels and reading	

MATERIALS	TEACHING STRATEGIES
	the two groups the arrows point to, i.e., Mary spins the two wheels, then reports, "I got clothing and senses," etc. After the students have practiced spinning the wheel and reading the groups say: THIS GAME ALSO HAS MANY PICTURE CARDS. Hold up the cards one at a time and have students identify the picture on each card. WE CAN PLAY WITH TWO, THREE, OR FOUR PLAYERS IN A GROUP. EACH PLAYER WILL BE DEALT EIGHT CARDS TO START WITH. THE REST OF THE CARDS ARE PLACED FACE DOWN IN THE MIDDLE OF THE TABLE AND THE TOP CARD ON THAT PILE IS TURNED FACE UP BESIDE THE OTHERS. Demonstrate by dealing eight cards to yourself and to each of the two or three student players, leaving the remaining portion of the deck upside down on the table. Then turn the top card up. Now choose a student to spin the two wheels and read aloud the word that each spinner points to, i.e. animals on one and shelter on the other. Then say: THE SPINNERS POINT TO (animals and shelter).

NG STRATEGIES

s point to, i.e., Mary spins the
, "I got clothing and senses," etc.

practiced spinning the wheel and

MANY PICTURE CARDS.

a time and have students identify
.

O, THREE, OR FOUR PLAYERS

DEALT EIGHT CARDS TO START

DS ARE PLACED FACE DOWN IN
ABLE AND THE TOP CARD ON
FACE UP BESIDE THE OTHERS.

ight cards to yourself and to each
ent players, leaving the remaining
de down on the table. Then turn

spin the two wheels and read aloud
er points to, i.e. animals on one
.

TO (animals and shelter).

ANTICIPATED STUDENT BEHAVIORS

Students:

--take turns spinning the wheels and reading the groups.

--observe and listen to the teacher demonstrate how the game is played.

MATERIALS

TEACHING STRATEGIES

BEFORE I PLAY I WILL DRAW THE TOP CARD FROM THE DECK OR I WILL TAKE THE CARD THAT IS FACE UP BESIDE THE DECK, WHICHEVER I THINK WILL BE MOST HELPFUL TO ME.

(Draw a card and demonstrate.)

NOW I MUST LOOK AT THE CARDS I HAVE IN MY HAND TO SEE IF I HAVE THREE OR MORE CARDS THAT WILL FIT ONE OF THE GROUPS THE SPINNERS POINTED TO.

IF I DO, I'LL PUT THEM FACE UP ON THE TABLE HERE IN FRONT OF ME. THE ONLY TIME I CAN LAY CARDS DOWN IS WHEN IT'S MY TURN TO PLAY.

NOW LOOK AT THE CARDS YOU HAVE IN YOUR HAND. IF YOU HAVE THREE CARDS THAT FIT EITHER GROUP, PLACE THEM ON THE TABLE FACE UP. IF NOT, SHOW YOUR CARDS AND POINT OUT WHY YOU CAN'T LAY ANY CARDS DOWN. THEN SAY:

NOW I MUST DISCARD, OR PUT ONE CARD BACK ON THE FACE UP PILE. (Demonstrate.) THAT MEANS MY TURN IS OVER AND THE NEXT PERSON GETS TO DRAW A CARD AND SEE IF HE CAN LAY ANY DOWN FROM ONE OF THOSE GROUPS.

ONCE YOU HAVE LAID DOWN THREE OR MORE CARDS IN A GROUP, YOU CAN ADD TO THAT GROUP WHEN IT IS YOUR TURN AND YOU HAVE ANOTHER CARD THAT FITS THAT GROUP. FOR INSTANCE, ON YOUR FIRST TURN SUPPOSE YOU LAY DOWN CHEESE, CARROT, AND BREAD IN THE GROUP "FOOD." YOU THEN DRAW BACON. ON YOUR NEXT TURN, YOU CAN REMOVE BACON FROM YOUR HAND AND ADD IT TO YOUR FOOD GROUP.

EACHING STRATEGIES

I WILL DRAW THE TOP CARD FROM
WILL TAKE THE CARD THAT IS FACE
DECK, WHICHEVER I THINK WILL
UL TO ME.

emonstrate.)

OK AT THE CARDS I HAVE IN MY HAND
AVE THREE OR MORE CARDS THAT WILL
E GROUPS THE SPINNERS POINTED TO.

PUT THEM FACE UP ON THE TABLE
OF ME. THE ONLY TIME I CAN LAY
WHEN IT'S MY TURN TO PLAY.

HE CARDS YOU HAVE IN YOUR HAND.
HREE CARDS THAT FIT EITHER GROUP,
THE TABLE FACE UP. IF NOT, SHOW
D POINT OUT WHY YOU CAN'T LAY ANY
THEN SAY:

SCARD, OR PUT ONE CARD BACK ON
ILE. (Demonstrate.) THAT MEANS
ER AND THE NEXT PERSON GETS TO
ND SEE IF HE CAN LAY ANY DOWN
HOSE GROUPS.

LAID DOWN THREE OR MORE CARDS
OU CAN ADD TO THAT GROUP WHEN
RN AND YOU HAVE ANOTHER CARD
T GROUP. FOR INSTANCE, ON YOUR
PPOSE YOU LAY DOWN CHEESE, CARROT,
THE GROUP "FOOD." YOU THEN DRAW
UR NEXT TURN, YOU CAN REMOVE
UR HAND AND ADD IT TO YOUR FOOD

ANTICIPATED STUDENT BEHAVIORS

MATERIALS

TEACHING STRATEGIES

YOU CAN LAY DOWN CARDS IN MORE THAN ONE GROUP DURING ANY TURN. FOR EXAMPLE, YOU MIGHT ADD BACON TO YOUR FOOD GROUP AND ADD TWO CARDS TO YOUR TRANSPORTATION GROUP ON THE SAME TURN.

THE FIRST PLAYER TO LAY DOWN ALL HIS CARDS IS THE WINNER.

Remember: When all players have had a turn, the first player again spins the wheels, which point to two new groups, and the game continues until a player is able to lay all his cards on the table and have one left over for a discard.

Continue the demonstration only until the game is understood. Then divide the class into groups of three or four and allow students to play the game as long as it seems appropriate.

GAME TIME F

HAVE

EACHING STRATEGIES

OWN CARDS IN MORE THAN ONE GROUP
RN. FOR EXAMPLE, YOU MIGHT ADD
FOOD GROUP AND ADD TWO CARDS TO
TATION GROUP ON THE SAME TURN.

YER TO LAY DOWN ALL HIS CARDS IS

l players have had a turn, the
layer again spins the wheels,
oint to two new groups, and the
ntinues until a player is able
all his cards on the table and
e left over for a discard.

stration only until the game is under-
e the class into groups of three or four
to play the game as long as it seems

ANTICIPATED STUDENT BEHAVIORS

Students:

--observe the teacher and two classmates playing the game.

--demonstrate their ability to play the game following the rules described.

GAME TIME FOR EVERYONE

HAVE YOU
INVOLVED
ALL
STUDENTS?

HAVE FUN

ACTIVITY 1-16

(128)

MATERIALS

TEACHING STRATEGIES

Following the game, ask:

WHAT DID YOU LEARN FROM PLAYING THIS GAME?

DID THE SAME CARD ALWAYS GO INTO THE SAME GROUP?

WHY NOT?

CHING STRATEGIES

ask:

ARN FROM PLAYING THIS GAME?

RD ALWAYS GO INTO THE SAME

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "How to put things in groups," "How to play it."

--respond that it fits in different ones at different times.

--conclude that the same items can be categorized in different ways.

ACTIVITY 1-16: "Forming Categories"

Activity name suggested by class:

Teacher
BSCS USE: Post ___ Tally ___ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

→ ________ ________ ________ ________

→ ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

add to kit add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is
☐ Of value--needs the revision suggested
☐ Worth salvaging--make major changes described
☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ________________:

17. Did pupils have difficulty understanding and using the categories on the spinner?
☐ No ☐ Yes: Which categories?

18. Were any students unable to play Environmental Rummy?
☐ No ☐ Yes: Tell who and explain.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

BSCS Evaluation: EMH Feedback Form 1c

UNIT I, CORE B
ACTIVITY 1-16: "Forming Categories"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contact.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.

MATERIALS

*Ditto master
*Scissors
*Paste or glue

*Not furnished in materials kit

TEACHING STRATEGIES

Activity 1-17. Review Of Success

This activity will evaluate the student's ability to group or sort various items into categories. The items to be grouped will be the things in the classroom pond with which they should be fairly familiar by now.

Teacher Preparation:

On a ditto master, make a list of the items in the classroom pond. Write them large enough so that they can be cut out (see Diagram 1-7).

Distribute one sheet to each of the students, telling them that this is a list of things that are in their pond. Go over the words with the students so they are familiar with them. Write NEVER LIVED, FROM PLANTS, FROM ANIMALS on the chalkboard. Direct the students to print each

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-17. REVIEW OF SUCCESS

BSCS

THIS ACTIVITY

e his immediate environment through
ety of sensory experiences and
al contacts.

a greater interest in, and a more
ive attitude toward, his environment.

ES:

e a variety of environmental
ents and examine their properties
aracteristics.

things according to observable
utes, sources, or functions.

ACHING STRATEGIES

iew Of Success

valuate the student's ability to
s items into categories. The items
e the things in the classroom pond
ld be fairly familiar by now.

ake a list of the items in the class-
em large enough so that they can be
n 1-7).

to each of the students, telling them
of things that are in their pond. Go
the students so they are familiar
VER LIVED, FROM PLANTS, FROM ANIMALS
Direct the students to print each

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have cut out and put the words describing items in the pond under the headings: FROM PLANTS, FROM ANIMALS, OR NEVER LIVED.

Diagram 1-7

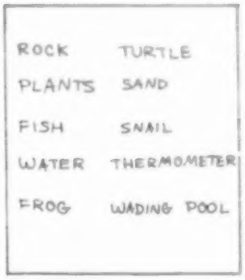
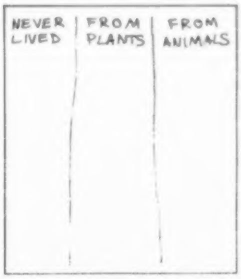

ROCK
TURTLE
PLANTS
SAND
FISH
SNAIL
WATER
THERMOMETER
FROG
WADING POOL

Diagram 1-8


NEVER LIVED
FROM PLANTS
FROM ANIMALS

title on a blank sheet of paper, so three columns will formed (see Diagram 1-8). Have scissors and paste or g available.

Tell students to cut out each word on the sheet you gav them and decide whether that item belongs to the NEVER LIVED group, FROM PLANTS group, or FROM ANIMALS group. When they have decided, they should paste or tape the word under the proper group title. Be sure students un stand the procedure before beginning.

When the students have completed the assignment, collec their papers. After class look over each student's pap Use Tallysheet 1-2 to rate the papers. If only a few students have not been able to group logically, practic various grouping exercises with them before the next activity. If many students made errors, plan some revi activities for the whole class.

TEACHING STRATEGIES

sheet of paper, so three columns will be
ram 1-8). Have scissors and paste or glue

cut out each word on the sheet you gave
hether that item belongs to the NEVER
PLANTS group, or FROM ANIMALS group.
cided, they should paste or tape the
oper group title. Be sure students under-
re before beginning.

have completed the assignment, collect
ter class look over each student's paper.
-2 to rate the papers. If only a few
been able to group logically, practice
exercises with them before the next
y students made errors, plan some review
e whole class.

ANTICIPATED STUDENT BEHAVIORS

Teacher ____________________
Date ____________________

UNIT I, CORE B
TALLYSHEET 1-2: Tally of Class Pond Grouping Task
ACTIVITY 1-17: "Clues To Success"

Doing the Task. Rate each student in columns 1 and 2 below on whether he Followed Directions and Completed the Task of cutting out the names of things in the pond, sorting them into two groups, and pasting them on a sheet of paper. Note students who need special attention and support to succeed.

Correct Grouping. (Please attach a copy of the list of objects you used.) In column 3 below, indicate whether each student's groups were Correctly Sorted. If a student made Errors, list in column 4 anything that was incorrectly included in the never lived, plants, or animals category. This will help you determine if there is a specific plant or animal students are confused about or if certain students do not understand how to group things.

		1	2	3	4		
		(Followed Directions)	(Completed Task)	(Correctly Sorted)	(Errors)		
					Never Lived	Plants	Animals
Attach ID list here.	01	yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			

		(Followed Directions)	(Completed Task)	(Correctly Sorted)	(Errors)		
					Never Lived	Plants	Animals
Attach ID list here.	01	yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			
		yes no	yes no	yes no			

UNIT 1, CORE B

ACTIVITY 1-17: "Review Of Success"

Teacher

BSCS USE: Post ____ Tally ____ Rev ___

Activity name suggested by class:

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

HIGH INTEREST → ________ ________ ________ ________

STRONG DISLIKE → ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

BSCS Evaluation: EMH Feedback Form 1c

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is
☐ Of value--needs the revision suggested
☐ Worth salvaging--make major changes described
☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Please complete Tallysheet 1-2 and send it in with this feedback sheet.

18. Concern (or questions) about content:

19. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

ACTIVITY 1-17: "Review Of Success"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

MATERIALS	TEACHING STRATEGIES
	Activity 1-18. Temperatures Affect All Living Things

Activity 1-18. Temperatures Affect All Living Things

Students thus far have been identifying and categorizing components within their environment. This activity focuses the student's attention on another environmental component, temperature. Students will be introduced to the idea that a thermometer is a tool used in measuring temperature. They will observe the direct effect that temperature has on an organism and experience the effect it has upon themselves.

THIS ACTIVITY

ore his immediate environment through
riety of sensory experiences and
ical contacts.

gnize the environmental components
ntial for all living things.

e a greater interest in, and a more
tive attitude toward, his environment.

rstand that his environment includes
whole Earth.

IVES:

ore a variety of environmental
onents and examine their properties
characteristics.

tice making estimates and predictions.

rmine new relationships he has with
environment.

ACHING STRATEGIES

peratures Affect All Living Things

ave been identifying and categorizing
heir environment. This activity focuses
tion on another environmental component,
nts will be introduced to the idea that
ool used in measuring temperature.
he direct effect that temperature has
xperience the effect it has upon

UNIT I. EXPLORING MY ENVIRONMENT

BSCS

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-18. TEMPERATURES AFFECT ALL LIVING THINGS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have observed that temperatures affect the behavior of organisms.*
- *--have experienced a visible and functional effect of a temperature change in his body.*
- *--have concluded that temperatures have a vital effect on all living things.*

ACTIVITY 1-18

(132)

MATERIALS

*Bowls or pie pans (1 per student)
*Baby food jars (1 per student)
*Collection of ants in a jar (At least one ant per student)
*5 lb. Bag of ice
*6-8 Containers - gallon size
*Strings about 27" long (1 per student)
*Nylon net or mesh (enough to cover each baby food jar to prevent ants from escaping)

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Before the class meets, if possible, make the temperature in your classroom uncomfortable. Do this either by opening the windows and making it too cool or by turning up the heat to make it too warm.

2. Have on hand a collection of ants if they are available. If not, other living things such as houseflies or sow bugs will do.

3. Have a large bag of ice available where the students can see it. This will be used for the hand experiment. It may also give students an idea to use in their ant experiment.

Begin by asking:

DOES IT SEEM WARM (COLD) IN HERE?

WHAT DO YOU SUPPOSE THE TEMPERATURE IS?

HOW DOES THIS EXTRA HEAT (COLD) MAKE YOU FEEL?

WHAT COULD WE DO TO MAKE YOU FEEL MORE COMFORTABLE?

Adjust the room temperature back to normal so the room will be comfortable.

Then say:

St

--

--

--

--

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
tion:	
class meets, if possible, make the e in your classroom uncomfortable. Do er by opening the windows and making it r by turning up the heat to make it	
and a collection of ants if they are . If not, other living things such as s or sow bugs will do.	
rge bag of ice available where the an see it. This will be used for the riment. It may also give students an se in their ant experiment.	
:	
EM WARM (COLD) IN HERE?	--respond, "Yes," "It's hot (cold)."
U SUPPOSE THE TEMPERATURE IS?	--guess what they think the temperature is, or say, "Too hot," "Too cold."
HIS EXTRA HEAT (COLD) MAKE YOU FEEL?	--respond, "Uncomfortable," "Like leaving," etc.
WE DO TO MAKE YOU FEEL MORE E?	--respond, "Turn the heat up." (down)
temperature back to normal so the room able.	

MATERIALS

TEACHING STRATEGIES

WHY IS THE TEMPERATURE OF THINGS IMPORTANT TO US?

WE KNOW THAT TEMPERATURE IS IMPORTANT TO US AND AFFECTS HOW WE FEEL AND WHAT WE DO. LET'S FIND OUT IF TEMPERATURE AFFECTS OTHER LIVING THINGS TOO.

Distribute a small jar or bottle to each student. Have each student take an ant from the collection and put it in his jar.

Then say:

LOOK AT YOUR ANT. HOW IS IT BEHAVING? WHAT IS IT DOING?

WHAT DO YOU SUPPOSE WOULD HAPPEN IF THE ANT SUDDENLY BECAME VERY COLD?

WHAT COULD WE DO TO FIND OUT WHAT WOULD HAPPEN IF THE ANT BECAME VERY COLD?

THERE IS A BAG OF ICE OVER THERE. HOW COULD WE USE THAT IN OUR COLD ANT TEST?

Give each student an ice cube in a bowl, pie plate, or other appropriate container.

Say:

St

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ERATURE OF THINGS IMPORTANT TO	--respond, "So we know what to wear," "So we know whether to touch things," "So we know what the weather is like."
PERATURE IS IMPORTANT TO US AND EEL AND WHAT WE DO. LET'S FIND JRE AFFECTS OTHER LIVING THINGS	
r or bottle to each student. Have ant from the collection and put it	
. HOW IS IT BEHAVING? WHAT	--observe the ants and respond, "Running around," "Trying to get out," etc.
OSE WOULD HAPPEN IF THE ANT VERY COLD?	--make predictions about what would happen to the ant, such as "It'd die," "Nothing," "It'd freeze," etc.
TO FIND OUT WHAT WOULD T BECAME VERY COLD?	--suggest various techniques for subjecting the ants to cold temperatures, such as putting it in the refrigerator, under cold water, on ice, etc.
F ICE OVER THERE. HOW COULD UR COLD ANT TEST?	--suggest putting the ant on the ice cubes.
ice cube in a bowl, pie plate, or tainer.	

MATERIALS

TEACHING STRATEGIES

IN A FEW MINUTES WE'LL ALL SET OUR ANT JARS ON THE ICE CUBE. HOW DO YOU THINK THE ANT WILL ACT?

Direct the students to set their jars on the ice cubes, and leave them there for a few minutes.

OBSERV

Then ask:

HOW IS YOUR ANT BEHAVING?

WHY DO YOU SUPPOSE IT'S ACTING THAT WAY?

Allow the students to experiment with exposing the ant in other ways to cold temperature (or hot).

ALLOW TIME F

After students have had time to experiment with the ant, say:

HOW FAST CAN YOU TIE YOUR SHOES, (student's name)?

I'LL TIME YOU. READY ----- GO!

Have string available to tie around the shoe for students who do not have shoes that tie. Watch the second hand on the clock to see how fast they tie their shoes. Record a sampling of the times on the board.

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
'LL ALL SET OUR ANT JARS OW DO YOU THINK THE ANT	--predict, "It'll die," "It'll freeze," "It'll climb out," etc.
et their jars on the ice cubes, a few minutes.	
OBSERVATION TIME	
AVING?	--respond, "It's moving slower and slower," "It crawled up to the top of the jar."
IT'S ACTING THAT WAY?	--respond, "It probably feels very cold," "It's not comfortable," "It wants to get out."
periment with exposing the ant in rature (or hot).	
ALLOW TIME FOR EXPERIMENTATION	
time to experiment with the ant,	
E YOUR SHOES, (student's	--respond, "Real fast."
DY ----- GO!	--will tie shoes as quickly as possible.
tie around the shoe for students at tie. Watch the second hand on t they tie their shoes. Record a the board.	

MATERIALS	TEACHING STRATEGIES
	IF YOUR HANDS WERE COLD, DO YOU THINK YOU COULD TIE THEM JUST AS FAST? Now have students take turns holding their hands in a large container of ice water for as long as they can stand it, but at least 30 seconds. (Two or three students can put their hands in each container.) Now time them to see how fast they can tie their shoes. Ask: WHAT HAPPENED? WHY? WHAT HAPPENS TO LIVING THINGS WHEN THEY BECOME VERY COLD? WHAT WOULD HAPPEN IF WE WERE IN ICY WEATHER FOR VERY LONG PERIODS OF TIME? CAN TEMPERATURE CHANGE OUR ENVIRONMENT? HOW? IS TEMPERATURE A PART OF OUR ENVIRONMENT JUST AS MUCH AS HOUSES AND FRIENDS AND PLANTS ARE? WHY? As a possible extension of this activity, students might be interested in experimenting to see how cold affects plants.

IG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OLD, DO YOU THINK YOU COULD T?	--predict, "Yes," "No," "Maybe."
rns holding their hands in a ter for as long as they can stand ds. (Two or three students can ontainer.) Now time them to see ir shoes. Ask:	
	--respond, "Wow, that was hard," "I couldn't move."
	--respond, "My hand was too cold."
NG THINGS WHEN THEY	--respond, "They don't move as well."
WE WERE IN ICY WEATHER DS OF TIME?	--respond, "I'd freeze to death," "We wouldn't be able to move."
GE OUR ENVIRONMENT?	--respond, "Yes," "No."
	--respond, "Make the leaves fall," "Freeze water," "Snow changes the ground, etc."
RT OF OUR ENVIRONMENT JUST ND FRIENDS AND PLANTS ARE?	--respond, "Yes."
	--respond, "Because it's always around us," "We can't get away from it," "We feel it all the time," etc.
f this activity, students might enting to see how cold affects	

ACTIVITY 1-18: "Temperature Affects All Living Things"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Which temperature did you use to make your classroom uncomfortable?
☐ Heat ☐ Cold: Comment.

18. Was it difficult to obtain ants or other small animals for this activity?
☐ No ☐ Yes: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

BSCS Evaluation: **EMH Feedback Form 1c**

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE B

ACTIVITY 1-18: "Temperature Affects All Living Things"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.
4. Determine new relationships he has with his environment.

MATERIALS

TEACHING STRATEGIES

Activity 1-19. Reading A Thermometer

This activity is designed to give the students an understanding of how thermometers are read. They will also practice using a thermometer. This information will not only be useful to the student in the subsequent activity, but in his everyday life as well.

THIS ACTIVITY

re his immediate environment through
iety of sensory experiences and
cal contacts.

nize the environmental components
tial for all living things.

e a greater interest in, and a more
tive attitude toward, his environment.

stand that his environment includes
nole Earth.

VES:

re a variety of environmental
nents and examine their properties
naracteristics.

things according to observable
outes, sources, or functions.

mine new relationships he has with
nvironment.

ACHING STRATEGIES

ding A Thermometer

signed to give the students an under-
rmometers are read. They will also
ermometer. This information will not
ne student in the subsequent activity,
life as well.

BSCS

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-19. READING A THERMOMETER

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have made a cardboard thermometer.*
- *--have practiced locating temperatures on a cardboard thermometer.*
- *--have successfully read a thermometer.*
- *--have experimented with taking various temperatures around the classroom.*
- *--have completed Worksheet 1-7.*

ACTIVITY 1-19

MATERIALS

Thermometers (1 per student)
Large model of thermometer
Worksheet 1-7
Slide 1-35
*Thin cardboard (1 per student)
*Paste
*Red string (25" per student)
*White string (25" per student)
*Stapler
*Colored pencils or thin felt tip markers
*Scissors (1 pair per student)
*Hole puncher
*35mm Slide projector

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Shirt cardboard or the cardboard from the back of a note-pad (8 1/2 X 11) should be appropriate for this activity. If these are used, cut them in half vertically.

String or yarn should be cut in 25" lengths.

Have stapler, paste, colored pencils, and thin felt tip markers available for student use.

Set the demonstration thermometer model in view of all students.

Begin by asking:

> IN THE LAST ACTIVITY WE TALKED ABOUT TEMPERATURE. IF WE WANTED TO KNOW THE TEMPERATURE OUTSIDE HOW WOULD WE BE ABLE TO FIND OUT WHAT IT IS?
>
> WHY WOULD YOU NEED TO KNOW WHAT THE TEMPERATURE IS?
>
> TODAY WE'RE GOING TO MAKE SOME THERMOMETERS OUT OF PAPER AND CARDBOARD AND PRACTICE USING THEM SO LATER WE CAN TAKE THE TEMPERATURE OF THINGS WITH REAL THERMOMETERS.
>
> WHEN WE WEIGH PEOPLE ON A SCALE, WE WEIGH THEM IN POUNDS. WHEN WE MEASURE HOW TALL SOMEONE IS, WE USE FEET AND INCHES. WHEN WE MEASURE FLOUR OR SUGAR FOR BAKING, WE USE CUPS. DOES ANYONE KNOW WHAT WE USE WHEN WE MEASURE TEMPERATURE?

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
n:	
the cardboard from the back of a note- hould be appropriate for this activity. cut them in half vertically.	
ld be cut in 25" lengths.	
, colored pencils, and thin felt tip or student use.	
on thermometer model in view of all	
CTIVITY WE TALKED ABOUT TEMPERATURE. O KNOW THE TEMPERATURE OUTSIDE E ABLE TO FIND OUT WHAT IT IS?	--respond, "From the radio," "The weatherman," "By reading a thermometer."
NEED TO KNOW WHAT THE TEMPERATURE	--respond, "So you know what to wear," "To find out how cold it is," etc.
OING TO MAKE SOME THERMOMETERS ND CARDBOARD AND PRACTICE USING WE CAN TAKE THE TEMPERATURE OF AL THERMOMETERS.	
PEOPLE ON A SCALE, WE WEIGH THEM HEN WE MEASURE HOW TALL SOMEONE IS, D INCHES. WHEN WE MEASURE FLOUR AKING, WE USE CUPS. DOES ANYONE SE WHEN WE MEASURE TEMPERATURE?	--respond, "Degrees," "I don't know."

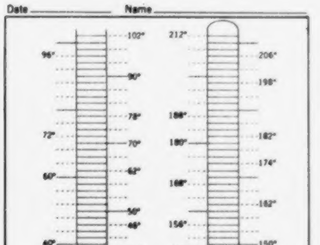
MATERIALS	TEACHING STRATEGIES
	If students do not know that temperature is measured in degrees, ask them: HOW MANY OF YOU CAN COUNT BY TWO'S? Ask for volunteers to count by two's to twenty, starting with zero. Direct the students attention to the thermometer model and point to the zero. Say: WHAT DO THE NUMBERS BELOW THE ZERO MEAN? Say: WHEN THE RED LINE IN THE THERMOMETER GOES BELOW OR UNDERNEATH THE ZERO °, IT IS VERY COLD. WE READ THE THERMOMETER BY SAYING IT IS BELOW ZERO. TODAY WE ARE GOING TO READ ONLY TEMPERATURES THAT ARE ABOVE ZERO. EACH LINE ON A THERMOMETER SHOWS TWO DEGREES. Demonstrate by having the students count with you as you put the red mark at 0° and move it up each 2°. Now place the "mercury" in the model at the 2° mark. Ask: WHAT DOES THIS SAY? HOW DO WE KNOW?

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
do not know that temperature is degrees, ask them:	
YOU CAN COUNT BY TWO'S?	--raise their hands in response to the question.
count by two's to twenty, starting	--volunteer to count by two's.
tention to the thermometer model	
RS BELOW THE ZERO MEAN?	--some may respond, "Below zero," "Really cold," others may not know.
IN THE THERMOMETER GOES BELOW ZERO °, IT IS VERY COLD. WE TER BY SAYING IT IS BELOW ZERO. G TO READ ONLY TEMPERATURES RO. EACH LINE ON A THERMOMETER	
the students count with you as you and move it up each 2°.	--read the thermometer as you move it and say two, four, six, eight, ten, twelve...
" in the model at the 2° mark.	
AY?	--respond, "Two degrees."
	--respond, "Because each mark represents two degrees.

MATERIALS

Slide 1-35

Worksheet 1-7



TEACHING STRATEGIES

Move it to the 8° mark and ask:

WHAT DOES THIS SAY? WHY?

Continue in a like manner until you think students have had sufficient practice. Next have a student come up and set the temperature on the model thermometer at a temperature he chooses. Have the student call on a classmate for the answer. If the answer is correct, the student who gave the response elects and sets a temperature for the class. Continue practice in this way, giving all students an opportunity to use the thermometer.

Distribute a copy of Worksheet 1-7 to each student and project Slide 1-35.

Direct the students' attention to their worksheets and say:

ON YOUR WORKSHEET YOU HAVE TWO PARTS OF THERMOMETERS, A TOP PART AND A BOTTOM PART.

WHAT IS MISSING ON EACH PART?

USING A PENCIL, SEE HOW QUICKLY YOU CAN FILL IN THE MISSING NUMBERS.

Observe the students while they work so you can notice errors and give help where necessary.

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
k and ask:	
AY? WHY?	--respond, "Eight degrees because a mark represents two degrees and there are four marks so I counted by two's to eight."
nner until you think students have ce. Next have a student come up and n the model thermometer at a tempera- e the student call on a classmate for nswer is correct, the student who cts and sets a temperature for the tice in this way, giving all students the thermometer.	
orksheet 1-7 to each student and	
ttention to their worksheets and	
T YOU HAVE TWO PARTS OF TOP PART AND A BOTTOM PART.	
N EACH PART?	--respond, "Some of the numbers."
EE HOW QUICKLY YOU CAN ING NUMBERS.	

hile they work so you can notice here necessary.	

MATERIALS

TEACHING STRATEGIES

As students finish, correct their papers. Review t
answers with them so they realize where their mista
were made. Now have them use colored pencils or fe
markers to darken the numbers.

Say:

> NOW YOU ARE GOING TO USE THIS WORKSHEET TO
> MAKE YOUR OWN PRACTICE THERMOMETER.

Demonstrate how to make the model. Take two pieces
cardboard and staple them lengthwise. Fold the pic
of the thermometer (Worksheet 1-7) in half and cut
the fold. Paste it to the stapled cardboard, one s
at a time. Point out the importance of pasting the
parts so they join correctly. Use the hole puncher
the top and bottom (see the model thermometer). Ti
end of the red string to one end of the white strin
Insert the untied ends into the holes at each end o
thermometer and tie them together so the string fit
snugly but can still slide around the cardboard.

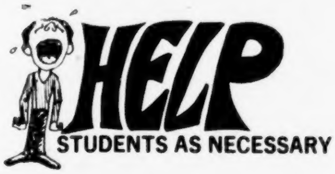
Help students make their thermometers as necessary.

When all thermometers have been made, students will
given practice in reading a thermometer as appropri
for temperatures throughout the seasons of the year
your community.

Begin by saying:

ING STRATEGIES

ANTICIPATED STUDENT BEHAVIORS



rect their papers. Review the
ey realize where their mistakes
em use colored pencils or felt tip
umbers.

TO USE THIS WORKSHEET TO
TICE THERMOMETER.

the model. Take two pieces of the
em lengthwise. Fold the picture
ksheet 1-7) in half and cut it on
the stapled cardboard, one sheet
he importance of pasting the two
ectly. Use the hole puncher at
the model thermometer). Tie one
o one end of the white string.
into the holes at each end of the
m together so the string fits
ide around the cardboard.

r thermometers as necessary.

ave been made, students will be
ng a thermometer as appropriate
hout the seasons of the year in

ACTIVITY 1-19

(142)

MATERIALS

TEACHING STRATEGIES

WHAT SEASON OF THE YEAR ARE WE NOW IN?

DOES ANYONE KNOW OR CAN ANYONE GUESS WHAT THE TEMPERATURE IS TODAY?

If students do not estimate or know the temperature, tell them an approximate temperature.

SHOW ___°, THE TEMPERATURE TODAY, BY MOVING THE STRING ON YOUR THERMOMETER.

IN THE (season), THE TEMPERATURE IN THIS AREA IS USUALLY BETWEEN (approximate range of temperatures in your area). WE ARE GOING TO PRACTICE LOCATING SOME OF THESE TEMPERATURES ON YOUR THERMOMETERS.

Give students practice in locating temperatures for the current season. Then proceed in the same manner for the other three seasons.

The next part of the strategy needs to be adapted to your geographical area.

Say:

IN WINTER, THE TEMPERATURE IS USUALLY VERY COLD. WHAT TEMPERATURES DO WE USUALLY HAVE IN WINTER?

HOW COLD DOES IT HAVE TO BE FOR US TO HAVE SNOW AND ICE?

IT USUALLY MUST BE COLDER THAN THIRTY-TWO DEGREES FOR US TO HAVE SNOW AND ICE. SHOW 32° ON YOUR THERMOMETER.

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
YEAR ARE WE NOW IN?	--respond by telling the season.
R CAN ANYONE GUESS WHAT THE AY?	--estimate the temperature or respond, "Don't know."
mate or know the temperature, tell perature.	
PERATURE TODAY, BY MOVING THERMOMETER.	
HE TEMPERATURE IN THIS AREA (approximate range of ur area). WE ARE GOING TO SOME OF THESE TEMPERATURES RS.	
in locating temperatures for the roceed in the same manner for the	
rategy needs to be adapted to your	
.	
PERATURE IS USUALLY VERY ATURES DO WE USUALLY HAVE	--recall previous practice and respond with low temperatures.
AVE TO BE FOR US TO HAVE	--respond with guesses of low temperatures.
COLDER THAN THIRTY-TWO HAVE SNOW AND ICE. SHOW METER.	--respond by showing 32°.
.	

MATERIALS

TEACHING STRATEGIES

Check to see if each student shows the correct temperature.

WE CALL THIRTY-TWO DEGREES THE FREEZING POINT.

Write "freezing point" on the chalkboard. Then write 32° next to it.

WHY DO YOU THINK WE CALL THIRTY-TWO DEGREES THE FREEZING POINT?

> If students do not know, say:
>
> WE CALL THIRTY-TWO DEGREES THE FREEZING POINT BECAUSE IT IS THE TEMPERATURE THAT WATER WILL FREEZE AT.

WHAT DOES FROZEN WATER LOOK LIKE?

NOW TAKE YOUR PENCIL AND MAKE A SMALL CIRCLE AROUND THIRTY-TWO DEGREES ON YOUR THERMOMETER. THE CIRCLE WILL HELP YOU REMEMBER THAT THIRTY-TWO DEGREES IS THE FREEZING POINT.

ANYTHING COLDER THAN THIRTY-TWO DEGREES IS STILL FREEZING. ANY NUMBERS BELOW THIRTY-TWO ON A THERMOMETER ARE FREEZING. IS THIRTY BELOW THIRTY-TWO ON YOUR THERMOMETER?

THEN IS THIRTY DEGREES FREEZING?

Have each student locate the temperature on his thermometer by sliding the string. Continue giving practice with freezing temperatures. Have some students select freezing temperatures for the class to show on their thermometers. During this practice, check to see that all students are responding correctly to the given temperatures.

Additional practice in reading and locating temperatures on the thermometer is given below, using the boiling point of water.

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ch student shows the correct temperature.	
Y-TWO DEGREES THE FREEZING POINT.	
int" on the chalkboard. Then write 32°	
INK WE CALL THIRTY-TWO DEGREES POINT?	--respond with guesses.
nts do not know, say:	
THIRTY-TWO DEGREES THE FREEZING CAUSE IT IS THE TEMPERATURE THAT LL FREEZE AT.	
ZEN WATER LOOK LIKE?	--respond, "Ice," "Snow."
PENCIL AND MAKE A SMALL CIRCLE -TWO DEGREES ON YOUR THERMOMETER. LL HELP YOU REMEMBER THAT THIRTY- S THE FREEZING POINT.	--respond by circling thirty-two degrees.
ER THAN THIRTY-TWO DEGREES IS G. ANY NUMBERS BELOW THIRTY- MOMETER ARE FREEZING. IS THIRTY TWO ON YOUR THERMOMETER?	--look at their thermometers and respond, "Yes."
Y DEGREES FREEZING?	--respond, "Yes."
locate the temperature on his thermometer ing. Continue giving practice with res. Have some students select freezing he class to show on their thermometers. ce, check to see that all students are ly to the given temperatures.	
e in reading and locating temperatures is given below, using the boiling point	

ACTIVITY 1-19

(144)

MATERIALS

TEACHING STRATEGIES

Ask:

HOW MANY OF YOU HAVE EVER SEEN WATER BOIL?

HOW DO YOU KNOW WHEN THE WATER IS BOILING?

DOES ANYONE KNOW WHAT THE TEMPERATURE IS WHEN WATER BOILS?

THE TEMPERATURE THAT WATER BOILS AT IS 212°. FIND 212° ON YOUR THERMOMETER AND MAKE THE RED STRING SHOW 212°.

Check to see that each student has correctly shown 212° on the thermometer.

Ask:

WE SAID THAT 32° IS CALLED THE FREEZING POINT. WHAT DO YOU THINK WE CALL 212°?

WHY DO YOU THINK WE CALL 212° THE BOILING POINT.

Write "boiling point" on the chalkboard and put "212°" next to it.

Ask:

WOULD ANYONE LIKE TO PUT HIS HAND IN WATER THAT WAS 212°?

WHY NOT?

WHAT ARE SOME OTHER VERY HOT TEMPERATURES WE COULD FIND ON OUR PRACTICE THERMOMETERS?

As students respond, have them manipulate the string to show the temperature.

Ask:

St

--r

--r

--r

--r

--i

--r

--r

--r

--r

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
HAVE EVER SEEN WATER BOIL?	--respond by raising hands.
WHEN THE WATER IS BOILING?	--recall that they see bubbles.
W WHAT THE TEMPERATURE IS WHEN	--respond that they do not know.
THAT WATER BOILS AT IS 212°. UR THERMOMETER AND MAKE THE 212°.	--respond by moving the string.
ch student has correctly shown 212°	
° IS CALLED THE FREEZING POINT. NK WE CALL 212°?	--infer, "The boiling point."
K WE CALL 212° THE BOILING POINT.	--respond, "It's the temperature that water boils at."
" on the chalkboard and put "212°"	
KE TO PUT HIS HAND IN WATER	--respond, "No," "Of course not."
	--respond, "It's much too hot."
THER VERY HOT TEMPERATURES WE UR PRACTICE THERMOMETERS?	--respond by making suggestions.
have them manipulate the string to .	

MATERIALS	TEACHING STRATEGIES
	DOES IT EVER GET THIS HOT OUTSIDE? Students will now be given the opportunity to read a real thermometer. Divide the class into groups of four. Give each group of students two Fahrenheit thermometers, a container of very warm water, and a container of ice water. Then do the following: 1. Have one student from the group hold a thermometer in each hand. 2. Each group should record the temperature reading of the two thermometers. When this is done the thermometers should be put down. 3. Have a student put one hand in the warm water and the other hand in the ice water for at least 30-60 seconds. 4. Have the same student pick up both thermometers, one in each hand. The group should observe and record the temperature of each thermometer. When they have finished ask: WHAT HAS HAPPENED? WHY? Distribute thermometers to each student. Direct them to record the temperature of each can of water, of the air near the radiator, of the pond, under his arms, and any other place he might want to. Circulate through the room while the students are doing this and assist those who ar having difficulty. When students have had ample time to

HING STRATEGIES

THIS HOT OUTSIDE?

given the opportunity to read a real

groups of four. Give each group of
it thermometers, a container of very
tainer of ice water. Then do the

t from the group hold a thermometer

ld record the temperature reading
mometers. When this is done the
ould be put down.

put one hand in the warm water and
in the ice water for at least 30-60

tudent pick up both thermometers,
d. The group should observe and
erature of each thermometer.

ed ask:

D?

rs to each student. Direct them to
e of each can of water, of the air
the pond, under his arms, and any
want to. Circulate through the room
e doing this and assist those who are
hen students have had ample time to

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No."

--note that both readings are the same.

--respond, "The temperature went down in the cold hand and up in the warm hand."

--respond that one hand was cold and one was hot.

MATERIALS

TEACHING STRATEGIES

use their thermometers in various ways, direct them to be seated. Write on the chalkboard, "radiator," "pond," "underarm," "water," and other places where the temperature was recorded.

Ask:

> (Student's name), WHAT WAS THE TEMPERATURE OF THE POND?
>
> (Student's name), DO YOU AGREE WITH THAT TEMPERATURE?

If students do not agree, put the second temperature on the chalkboard and direct a student to take the temperature of the pond again so the disagreement can be resolve Continue in this manner until all places where temperatures were taken have been discussed.

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
in various ways, direct them to e chalkboard, "radiator," "pond," d other places where the tempera-	
WHAT WAS THE TEMPERATURE OF	--respond by giving the temperature he recorded.
DO YOU AGREE WITH THAT	--respond, "Yes," "No."
e, put the second temperature on ct a student to take the tempera- so the disagreement can be resolved. until all places where tempera- een discussed.	

ACTIVITY 1-19: "Reading A Thermometer"

Activity name suggested by class:

Teacher
BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

BSCS Evaluation: **EMH Feedback Form 1c**

Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did pupils have difficulty seeing the line of mercury in the thermometer?
☐ Yes ☐ No: Comment.

18. Did students object to the model thermometer because it was felt to be babyish?
☐ No ☐ Yes: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE B

ACTIVITY 1-19: "Reading A Thermometer"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

MATERIALS

TEACHING STRATEGIES

Activity 1-20. Temperatures In My Outside Environment

Before this activity is conducted, assessment will be made of the student's ability to read a thermometer. In addition, the student will be checked on whether he is able to observe something new about the class animals or plants. Once the student has learned to read a thermometer and has observed how temperature affects himself and other living things, he will go outside and measure temperature variations within his outside

R THIS ACTIVITY

ore his immediate environment through
riety of sensory experiences and
ical contacts.

gnize the environmental components
ntial for all living things.

te a greater interest in, and a more
itive attitude toward, his environment.

rstand that his environment includes
whole Earth.

IVES:

ore a variety of environmental
onents and examine their properties
characteristics.

tice making estimates and predictions.

rmine new relationships he has with
environment.

ACHING STRATEGIES

mperatures In My Outside Environment

ty is conducted, assessment will be
t's ability to read a thermometer.
tudent will be checked on whether he
something new about the class animals
he student has learned to read a
s observed how temperature affects
living things, he will go outside and
e variations within his outside

BSCS

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-20. TEMPERATURES IN MY OUTSIDE ENVIRONMENT

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have read a thermometer.*
- *--have observed something new about the class animal or plants.*
- *--have taken and recorded temperatures in various areas out of doors.*
- *--have recognized that there are temperature variations in the outside environment that are greater than in the inside environment.*

MATERIALS

Thermometer (Fahrenheit) for each pair of students
3 Beakers (large)
*Ice
*Water
*Materials for making a chart to record temperatures for two weeks

*Not furnished in materials kit

TEACHING STRATEGIES

environment. By looking for the hottest and coldest temperature, he will realize the variety of temperatures outside and conclude that the range of temperatures outside is usually greater than inside.

CLUES

Teacher Preparation:

Set up three large beakers on your desk with water in them. One beaker should have some ice in it so the temperature will be cold. A second beaker should contain water at room temperature. The third beaker should contain very hot water. Have three thermometers available.

Read Tallysheet 1-3 and have it at your desk for use in assessment.

Begin by saying:

> TODAY YOU ARE GOING TO LOOK AT THE PLANTS AND ANIMALS IN THE ROOM TO SEE IF YOU CAN FIND SOMETHING THAT YOU HAVE NEVER SEEN BEFORE OR SOME KIND OF CHANGE THAT HAS HAPPENED SINCE THE LAST TIME YOU LOOKED AT THE PLANT OR ANIMAL. THEN I WILL ASK YOU TO COME UP TO MY DESK TO TELL ME WHAT YOU SAW OR WHAT HAS CHANGED. I WILL ALSO ASK YOU TO READ THE TEMPERATURE ON A THERMOMETER SO I CAN FIND OUT WHO NEEDS MORE PRACTICE IN READING A THERMOMETER.

Allow students to observe for several minutes before calling them to your desk. While they are observing, put the thermometers in the beakers on your desk.

CHING STRATEGIES

ing for the hottest and coldest realize the variety of temperatures that the range of temperatures out-ter than inside.

CLUES TO SUCCESS

eakers on your desk with water in ould have some ice in it so the cold. A second beaker should contain ature. The third beaker should con- Have three thermometers available.

and have it at your desk for use in

OING TO LOOK AT THE PLANTS AND ROOM TO SEE IF YOU CAN FIND YOU HAVE NEVER SEEN BEFORE OR ANGE THAT HAS HAPPENED SINCE OU LOOKED AT THE PLANT OR WILL ASK YOU TO COME UP TO ME WHAT YOU SAW OR WHAT HAS L ALSO ASK YOU TO READ THE A THERMOMETER SO I CAN FIND ORE PRACTICE IN READING A

serve for several minutes before desk. While they are observing, put the beakers on your desk.

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have concluded that inside temperatures can be controlled and therefore don't usually vary much.

MATERIALS	TEACHING STRATEGIES
	Ask the student what his observation is and jot it down on Tallysheet 1-3 on the space provided.

Next, move one of the beakers with its thermometer near the student and ask the student to read the thermometer. If the student reads it correctly within two degrees circle "yes" on the tallysheet. If he is incorrect, circle "no."

NOTE: If the thermometer is removed from the water for reading, the temperature will change rapidly, making it difficult to check the accuracy of the reading.

Repeat this procedure for each student. Rotate the beakers used so the students cannot exchange information or reveal the temperature through a loudly stated response.

If many students were unable to read the thermometer, provide additional practice before proceeding in this activity. If only a few students are unable to read the thermometer, give them additional practice when the other students are collecting temperatures as provided in this activity.

Begin the next part of this activity by saying:

> WE HAVE BEEN MEASURING THE TEMPERATURE OF SOME THINGS INSIDE. LET'S GO OUTSIDE AND MEASURE THE TEMPERATURE OF SOME PARTS OF OUR ENVIRONMENT.
>
> DO YOU SUPPOSE THE GROUND IS THE SAME TEMPERATURE AS THE AIR?
>
> WHY? OR WHY NOT?
>
> DO YOU SUPPOSE THAT THE WATER IN THE POND IS THE SAME TEMPERATURE AS THE SIDEWALK?

ACHING STRATEGIES

at his observation is and jot it down on
the space provided.

the beakers with its thermometer near
the student to read the thermometer.
ds it correctly within two degrees
e tallysheet. If he is incorrect, circle

mometer is removed from the water for
e temperature will change rapidly,
ifficult to check the accuracy of the

ure for each student. Rotate the
e students cannot exchange information
erature through a loudly stated response.

ere unable to read the thermometer,
practice before proceeding in this
a few students are unable to read the
them additional practice when the other
cting temperatures as provided in this

t of this activity by saying:

MEASURING THE TEMPERATURE OF SOME
. LET'S GO OUTSIDE AND MEASURE
RE OF SOME PARTS OF OUR ENVIRON-

E THE GROUND IS THE SAME TEMPERA-
IR?

OT?

E THAT THE WATER IN THE POND IS
ERATURE AS THE SIDEWALK?

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-20

⑮⓪

MATERIALS

TEACHING STRATEGIES

WHY? OR WHY NOT?

DO YOU SUPPOSE THE WATER IN THE DRINKING FOUNTAIN IS THE SAME TEMPERATURE AS THE AIR?

WHY? OR WHY NOT? etc.

Divide the class into groups of two and ask each group to secure a piece of paper and write "Place" on the top left side, and "Temperature" on the top right side. Write these words on the chalkboard to assist the students in spelling.

Give each pair of students a thermometer and say:

IN A MOMENT WE ARE GOING OUTSIDE TO TAKE TEMPERATURES. USE YOUR PENCIL AND PAPER TO WRITE DOWN THE TEMPERATURES YOU MEASURE AND THE PLACES WHERE YOU TAKE THE MEASUREMENTS. YOUR JOB IS TO GO OUTSIDE AND FIND THE COLDEST PLACE OR THING AND THE WARMEST PLACE OR THING. TO FIND THEM YOU'LL PROBABLY HAVE TO TAKE THE TEMPERATURE OF MANY OBJECTS. DON'T FORGET TO WRITE EACH TEMPERATURE AND PLACE DOWN ON YOUR PAPER.

Proceed outside to measure and record temperatures.

HAVE FUN T
TEMPERATU

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
Y NOT?	
POSE THE WATER IN THE DRINKING S THE SAME TEMPERATURE AS THE AIR?	
Y NOT? etc.	--predict whether or not the temperature is the same in various areas.
s into groups of two and ask each group to of paper and write "Place" on the top left erature" on the top right side. Write the chalkboard to assist the students in	
of students a thermometer and say:	
T WE ARE GOING OUTSIDE TO TAKE ES. USE YOUR PENCIL AND PAPER TO THE TEMPERATURES YOU MEASURE AND WHERE YOU TAKE THE MEASUREMENTS. S TO GO OUTSIDE AND FIND THE COLDEST HING AND THE WARMEST PLACE OR THING. EM YOU'LL PROBABLY HAVE TO TAKE THE E OF MANY OBJECTS. DON'T FORGET ACH TEMPERATURE AND PLACE DOWN ON .	
to measure and record temperatures.	--measure and record temperatures at selected sites.

HAVE FUN TAKING
TEMPERATURES

MATERIALS

TEACHING STRATEGIES

Upon returning to the classroom ask:

DID YOU FIND THAT THE TEMPERATURE WAS THE SAME EVERYWHERE OUTSIDE?

(Student's name), WHAT WAS THE COOLEST PLACE OUTSIDE THAT YOU FOUND?

WHAT WAS THE TEMPERATURE OF THAT PLACE?

DID ANYONE ELSE MEASURE THE SAME TEMPERATURE?

DID ALL OF YOU GET THE SAME TEMPERATURE?

If there is a disagreement about the temperature of a particular place allow the students to go outside and check it.

WHY DO YOU THINK THAT WAS THE COOLEST PLACE?

DID ANYBODY FIND A PLACE THAT WAS COOLER?

If someone did, ask:

WHAT WAS THE PLACE AND TEMPERATURE THAT YOU FOUND?

Continue in this manner until the class has decided on the coldest place. Repeat the questioning above, this time asking about the warmest place.

Now ask the students to put a number "1" on the paper by the coldest place, a number "2" by the next coldest place and so on until they have ordered the temperatures from coldest to warmest.

St

--s

--e
p

--r

--i

--r

--r
w

--r

--r

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
classroom ask:	
T THE TEMPERATURE WAS THE SAME DE?	--say, "No."
, WHAT WAS THE COOLEST PLACE FOUND?	--examine their papers and determine the coolest place.
PERATURE OF THAT PLACE?	--respond by reporting the temperature.
IEASURE THE SAME TEMPERATURE?	--indicate, "Yes," "No."
ET THE SAME TEMPERATURE?	--respond, "Yes," "No," "Just about."
ement about the temperature of a v the students to go outside and	
THAT WAS THE COOLEST PLACE?	--respond, "It was in the shade," "Where the wind was blowing," etc.
A PLACE THAT WAS COOLER?	--respond, "Yes," "No."
CE AND TEMPERATURE THAT YOU	--respond by reporting the temperature.
er until the class has decided on the t the questioning above, this time est place.	
to put a number "1" on the paper by umber "2" by the next coldest place ave ordered the temperatures from	

MATERIALS

TEACHING STRATEGIES

Then ask:

WERE ANY OF THE TEMPERATURES ON YOUR LIST THE SAME?

WHY?

IF WE TOOK THE TEMPERATURE OF MANY PLACES INSIDE OUR ROOM WOULD WE HAVE AS MANY DIFFERENT TEMPERATURES?

WHY?

WHAT CONTROLS THE OUTSIDE TEMPERATURE?

WHAT CONTROLS THE INSIDE TEMPERATURE?

WHY DO WE CONTROL THE INSIDE TEMPERATURE?

WHY THEN DO WE FIND MANY MORE DIFFERENT TEMPERATURES OUTSIDE THEN WE DO INSIDE?

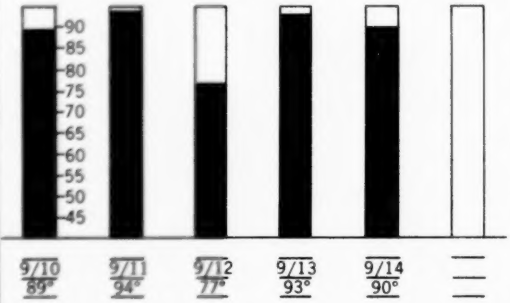
Now assign the students to teams consisting of about four students each. Divide the number of teams evenly so that half of them take and record the classroom temperature while the other half take and record the outside temperature. Caution the students to take the air temperature at the same location and height, and with the thermometer shaded. Have each team record the temperatures on a teacher-made chart for a two week period.

The purpose of the chart is to assist students in visualizing the temperature change or lack of change. This manner of recording will be helpful for students to recall in future activities when graphing is developed.

ING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
MPERATURES ON YOUR LIST THE	--probably respond, "No."
	--respond, "Because they were taken in different places."
PERATURE OF MANY PLACES ULD WE HAVE AS MANY URES?	--predict, "No."
	--respond, "Because it's all one room," "It's all heated the same," etc.
OUTSIDE TEMPERATURE?	--respond, "The weather," "The sun," "Nature."
INSIDE TEMPERATURE?	--respond, "You do," "The furnace," etc.
THE INSIDE TEMPERATURE?	--respond, "So we will be more comfortable," "So it remains the same from one time to the next."
D MANY MORE DIFFERENT DE THEN WE DO INSIDE?	--conclude and respond, "Because we can control the inside temperature but not the outside."
to teams consisting of about four the number of teams evenly so that ecord the classroom temperature ke and record the outside tempera- ents to take the air temperature d height, and with the thermometer record the temperatures on a a two week period.	
t is to assist students in visual- hange or lack of change. This l be helpful for students to recall en graphing is developed.	

MATERIALS

Diagram 1-9



TEACHING STRATEGIES

Make one large chart for each team as illustrated in Diagram 1-9. Draw ten rectangles of the same height parallel to one another. Indicate degrees beside each rectangle. Below each of the rectangles, make three parallel lines between which students will record the temperature observed and the date of the observation (as shown in Diagram 1-9). Instruct the students to shade in the temperature on each rectangle with crayon or colored pencil.

After the record has been kept for about two weeks, repeat and discuss these questions:

DID THE TEMPERATURE VARY MORE OUTSIDE OR INSIDE?

WHY?

WHAT CONTROLS THE OUTSIDE TEMPERATURE?

WHAT CONTROLS THE INSIDE TEMPERATURE?

WHY DO WE CONTROL THE INSIDE TEMPERATURE?

WHY DID WE MAKE A PICTURE TO SHOW THE TEMPERATURE CHANGE?

STRATEGIES

ach team as illustrated in
tangles of the same height
ndicate degrees beside each
he rectangles, make three
h students will record the
e date of the observation (as
struct the students to shade in
tangle with crayon or colored

ept for about two weeks, repeat
s:

RY MORE OUTSIDE OR INSIDE?

SIDE TEMPERATURE?

IDE TEMPERATURE?

INSIDE TEMPERATURE?

TURE TO SHOW THE
.

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Outside."

--respond, "Building is heated," "Building is air conditioned."

--respond, "The weather," "The sun," "Nature," etc.

--respond, "You do," "The furnace," etc.

--respond, "So we will be more comfortable."

--decide that it was easier to understand how much the temperature changed by seeing a picture of the changes.

Teacher ______________________
Date ______________________

UNIT I, CORE B

TALLYSHEET 1-3: Awareness of Changes and Ability to Read a Thermometer

ACTIVITY 1-20: "Temperature In My Outside Environment"

Follow the strategy outlined at the beginning of Activity 1-19 to check on each student's ability to note something new in the environment and to accurately read a thermometer. Select a place to talk to each student when he cannot be readily overheard by others.

Observation or Change. In the first column below write down the new observation or change mentioned by each student. A short phrase is sufficient. Use this information to decide whether you need to help some students observe and describe their environment. Be sure to discuss with the class all the things they mentioned after you complete this tally.

Thermometer Reading. In the second column, circle "Yes" if the student read a thermometer correctly within two degrees of the correct temperature. Circle "No" if the student read it less accurately. Circle X if the student could not read it or was way off. Give these children special attention and review. Decide whether the whole class needs further practice or is ready to go on with Activity 1-19.

		Observation or Change	Thermometer Reading
Attach ID list here.	01		Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X

students observe and describe their environment. Be sure to discuss with the class all the things they mentioned after you complete this tally.

Thermometer Reading. In the second column, circle "Yes" if the student read a thermometer correctly within two degrees of the correct temperature. Circle "No" if the student read it less accurately. Circle X if the student could not read it or was way off. Give these children special attention and review. Decide whether the whole class needs further practice or is ready to go on with Activity 1-19.

		Observation or Change	Thermometer Reading
Attach ID list here.	01		Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X
			Yes No X

ACTIVITY 1-20: "Temperatures In My Outside Environment"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

Materials used:	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
   ☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
    ☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

---

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
    What parts of this activity should be retained when the curriculum is revised?
    Page(s) ____________________:

17. Were students interested in keeping a record of temperatures for a specific area?
    ☐ Yes ☐ No: Comment.

18. Did students disagree often about temperature of a particular place?
    ☐ No ☐ Yes: Comment.

19. Please complete Tallysheet 1-3 and send it in with this feedback sheet.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

BSCS Evaluation: **EMH Feedback Form 1c**

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT 1, CORE B

ACTIVITY 1-20: "Temperatures In My Outside Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE B OBJECTIVES:

3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

MATERIALS

TEACHING STRATEGIES

Activity 1-21. Measurement In My Environment

The purpose of this activity is to have the student realize that measurement is an important and necessary device for communicating information about himself and his environment. Students will also come to realize through practical experiences, that a standard unit of measurement is needed for accurate communication.

FOR THIS ACTIVITY

:

xplore his immediate environment through variety of sensory experiences and hysical contacts.

reate a greater interest in, and a more ensitive attitude toward, his environment.

Understand that his environment includes the whole Earth.

JECTIVES:

ractice making estimates and predictions.

Determine new relationships he has with his environment.

TEACHING STRATEGIES

Measurement In My Environment

this activity is to have the student easurement is an important and necessary municating information about himself and t. Students will also come to realize cal experiences, that a standard unit of needed for accurate communication.

UNIT I. EXPLORING MY ENVIRONMENT

BSCS

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-21. MEASUREMENT IN MY ENVIRONMENT

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have concluded that standard units of measurement are necessary to communicate certain kinds of information.
--have practiced estimating sizes of various objects and distances.
--have accurately measured in inches a number of objects in the classroom.

ACTIVITY 1-21
(156)

MATERIALS

*String
*Rulers (one per student)
Worksheet 1-8
*Scissors
Camera (Polaroid Square Shooter)

*Not furnished in materials kit

TEACHING STRATEGIES

Begin this activity by asking:

> CAN YOU GUESS WHAT THE TEMPERATURE IS IN OUR ROOM TODAY?
>
> IF YOU DIDN'T WANT TO JUST GUESS WHAT COULD YOU DO?

Then say:

> WE HAVE LEARNED THAT A THERMOMETER CAN BE USED TO MEASURE TEMPERATURE. WHAT ARE SOME OTHER THINGS IN OUR ENVIRONMENT THAT WE CAN MEASURE?

Then ask this series of questions as appropriate:

**GIVE STUDE
TIME
TO
THINK**

> CAN PEOPLE MEASURE SPEEDS?
>
> WITH WHAT?
>
> CAN WE MEASURE RAINFALL?
>
> HOW?
>
> CAN WE MEASURE GASOLINE?
>
> HOW?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
by asking:	
HAT THE TEMPERATURE IS IN OUR	--respond with various guesses of the temperature in the room.
ANT TO JUST GUESS WHAT COULD	--respond, "Measure," "Get a thermometer."
THAT A THERMOMETER CAN BE USED ERATURE. WHAT ARE SOME OTHER NVIRONMENT THAT WE CAN MEASURE?	--will respond with a variety of things such as: humidity, wind speed, amount of rainfall, distances, speeds, etc.
of questions as appropriate:	
URE SPEEDS?	--respond, "Yes."
	--respond, "Speedometer."
RAINFALL?	--respond, "Yes."
	--respond, "Collect the rain."
GASOLINE?	--respond, "Yes."
	--respond, "By gallons," "With a pump."

GIVE STUDENTS
TIME
TO
THINK

MATERIALS

TEACHING STRATEGIES

CAN WE MEASURE MILK?

HOW?

CAN WE MEASURE EVERYTHING?

CAN WE MEASURE FUN? HATE? LOVE?

Continue by asking:

CAN WE MEASURE LENGTH?

WHAT CAN WE USE TO MEASURE LENGTH?

Then say:

I WANT YOU TO MEASURE HOW WIDE YOUR TABLE (desk) IS WITHOUT USING A RULER. WHEN YOU HAVE FINISHED, TELL ME HOW WIDE IT IS.

ALLOW SUFFICIENT TIME FO
TO THINK AND OBSERVE ACTIO

Observe the class. If at least one of the students is successful in inventing a unit of measurement such as a book, hand, etc., let him continue and omit the following sequence.

> If none of the students are successful say:
>
> WATCH WHAT I AM DOING?
>
> Measure the width of your desk or table in hands. Then state:
>
> MY DESK (table) IS (15) HANDS WIDE.

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
MILK?	--respond, "Yes."
	--respond, "By the pint," "Quart," "Gallon."
EVERYTHING?	--will give varying responses to this difficult question.
FUN? HATE? LOVE?	--should realize that we cannot measure everything.
LENGTH?	--respond, "Yes."
E TO MEASURE LENGTH?	--respond, "A ruler."
MEASURE HOW WIDE YOUR TABLE OUT USING A RULER. WHEN YOU HAVE ME HOW WIDE IT IS.	--invent a unit of measurement and measure the desk.
ALLOW SUFFICIENT TIME FOR STUDENTS TO THINK AND OBSERVE ACTIONS OF OTHERS	
If at least one of the students is ting a unit of measurement such as a et him continue and omit the following	
f the students are successful say:	
T I AM DOING?	--observe the teacher.
he width of your desk or table in hen state:	
table) IS (15) HANDS WIDE.	

ACTIVITY I-21
(158)

MATERIALS

TEACHING STRATEGIES

Have the students determine how many hands wide their desks are. Then ask:

> IS IT OKAY TO MEASURE OUR DESKS IN HANDS?

Now say:

> A LONG TIME AGO, PEOPLE DID NOT HAVE RULERS, YARDSTICKS, OR TAPE MEASURES. HOW DO YOU SUPPOSE THEY FOUND OUT HOW BIG THINGS WERE?

> If some of the students were successful in inventing units of measurement other than rulers, use the following strategy.
>
> Call on one of the students who has created a unit other than rulers and ask:
>
> (Student's name), HOW WIDE IS YOUR DESK?
>
> Then say:
>
> DO YOU THINK IT IS OKAY TO MEASURE THE DESK IN (insert units used by student)?
>
> Now say:
>
> A LONG TIME AGO, PEOPLE DID NOT HAVE RULERS, YARDSTICKS, OR TAPE MEASURES. HOW DO YOU THINK THEY FOUND OUT HOW BIG THINGS WERE?

Continue in either case by asking each student to tell you how many hands wide his desk is and record the number on the chalkboard.

Then say:

> ARE ALL OF THE DESKS THE SAME WIDTH?

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ents determine how many hands wide their hen ask:	
AY TO MEASURE OUR DESKS IN HANDS?	--respond, "Yes," "No, that's stupid."
IME AGO, PEOPLE DID NOT HAVE RULERS, KS, OR TAPE MEASURES. HOW DO YOU THEY FOUND OUT HOW BIG THINGS WERE?	--infer that without rulers they probably had to use other units of measure such as hands.
some of the students were successful in enting units of measurement other than ers, use the following strategy.	
l on one of the students who has created nit other than rulers and ask:	
udent's name), HOW WIDE IS YOUR DESK?	--respond, "It is (student's unit) wide."
n say:	
YOU THINK IT IS OKAY TO MEASURE THE K IN (insert units used by student)?	--respond, "Yes," "No, don't be stupid."
say:	
ONG TIME AGO, PEOPLE DID NOT HAVE RULERS, DSTICKS, OR TAPE MEASURES. HOW DO YOU NK THEY FOUND OUT HOW BIG THINGS WERE?	--infer that they had to use other units.
ither case by asking each student to tell ands wide his desk is and record the number oard.	--respond with the number of hands used to measure the width of their desks.
F THE DESKS THE SAME WIDTH?	--respond, "Yes," "No," "Almost."

MATERIALS

TEACHING STRATEGIES

> DID ALL OF YOU USE THE SAME NUMBER OF HANDS WHEN YOU MEASURED THE WIDTHS OF YOUR DESKS?
>
> WHY NOT?
>
> WOULD IT BE BETTER TO USE A RULER RATHER THAN YOUR HAND TO MEASURE THE WIDTH OF YOUR DESK?
>
> WHY?
>
> WHY IS IT IMPORTANT THAT WE USE MEASUREMENTS SUCH AS INCHES RATHER THAN HANDS?

Students will now continue to estimate lengths and make some predictions of lengths before they get out rulers and actually measure things in the last part of this activity.

Continue by saying:

> I WAS TOLD THAT TWICE AROUND A PERSON'S THUMB AT ITS WIDEST SPOT IS EQUAL TO ONCE AROUND THE PERSON'S WRIST.
>
> HOW COULD WE FIND OUT IF THAT IS TRUE?

St

--

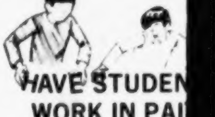
--

--

--

--

--



EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
U USE THE SAME NUMBER OF HANDS URED THE WIDTHS OF YOUR DESKS?	--respond, "No." --infer that the hands vary in size and that desks may be of different sizes.
ETTER TO USE A RULER RATHER THAN MEASURE THE WIDTH OF YOUR DESK?	--infer that it would be better to use a ruler. --conclude that rulers are always the same and that hands are not.
ORTANT THAT WE USE MEASUREMENTS S RATHER THAN HANDS?	--infer that they are always the same.
continue to estimate lengths and make f lengths before they get out rulers re things in the last part of this	
:	
AT TWICE AROUND A PERSON'S WIDEST SPOT IS EQUAL TO ONCE RSON'S WRIST.	
FIND OUT IF THAT IS TRUE?	--suggest measuring twice around the thumb and once around the wrist and comparing.

HAVE STUDENTS
WORK IN PAIRS

MATERIALS

TEACHING STRATEGIES

Now distribute string and scissors to each pair of students.

DISTRIBUTE MATE

Instruct them to wrap a piece of string twice around the widest part of their thumb and then cut the string. Demonstrate this technique if necessary. Then have them cut a piece of string equal to once around their wrist. Have each student set the two strings out in front of him and ask:

> ARE THE STRINGS THE SAME LENGTH?
>
> ARE THE TWO STRINGS ALMOST THE SAME LENGTH?

Now say:

> TWICE AROUND YOUR WRIST IS EQUAL TO ONCE AROUND YOUR NECK. WITHOUT PUTTING STRING AROUND YOUR NECK CUT A PIECE OF STRING AS BIG AS YOU THINK YOUR NECK IS.

Some students will just guess at this length and cut a piece of string. Others should think to make it twice as long as the wrist string they have in front of them.

Continue by saying:

> NOW CUT A PIECE OF STRING THAT IS THE SIZE OF YOUR NECK.

St

TRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
issors to each pair of	
DISTRIBUTE MATERIALS	
e of string twice around the nd then cut the string. f necessary. Then have them to once around their wrist. o strings out in front of	
E LENGTH?	--observe and compare the two strings and respond appropriately.
MOST THE SAME LENGTH?	--observe and compare the two strings and conclude, "Yes."
IS EQUAL TO ONCE AROUND TING STRING AROUND YOUR RING AS BIG AS YOU THINK	--estimate the size of their neck and cut a piece of string accordingly.
ss at this length and cut a ould think to make it twice as y have in front of them.	
ING THAT IS THE SIZE	--cut a piece of string equal to the size of their neck.

MATERIALS

TEACHING STRATEGIES

NOW COMPARE YOUR GUESS WITH THE REAL LENGTH.
WAS YOUR GUESS CLOSE?

IS TWICE AROUND YOUR WRIST EQUAL TO ONCE
AROUND YOUR NECK?

If this is not too confusing at this point, students can fold the neck string in half and compare that with the wrist string.

DE

Continue with the last part of this estimating sequence by saying the following:

MAKE A STRING THAT IS TWICE AS LONG AS YOUR
NECK STRING.

Students may have difficulty with this. Watch them carefully and assist them in this task. The idea of laying the string length out twice may prove to be difficult. Let them figure it out for themselves and help only at a minimum.

HING STRATEGIES

GUESS WITH THE REAL LENGTH.
OSE?

OUR WRIST EQUAL TO ONCE
?

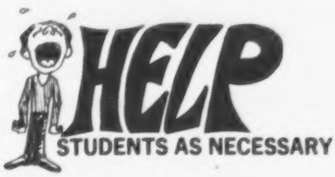
fusing at this point, students can
n half and compare that with the

DEMONSTRATE

part of this estimating sequence
ng:

T IS TWICE AS LONG AS YOUR

ficulty with this. Watch them care-
in this task. The idea of laying
twice may prove to be difficult.
for themselves and help only at



ANTICIPATED STUDENT BEHAVIORS

Students:

--observe the two strings and respond accordingly.

--examine the wrist string and the neck string and estimate that one is about twice as long as the other.

MATERIALS

Date ____________ Name ____________________

1. HOW MANY FEET ARE IN A YARD?

A. 2 B. 3 C. 12 D. 36

MARK AN X ON YOUR CHOICE.

2. HOW MANY INCHES ARE IN A FOOT?

A. 2 B. 3 C. 12 D. 36

MARK AN X ON YOUR CHOICE.

3. USE YOUR RULER TO MEASURE THE LINE BELOW.

LENGTH ________ INCHES.

Worksheet 1-8

TEACHING STRATEGIES

When all students have a string twice as long as their neck string, say:

> FIND A PART OF YOUR BODY THAT IS AS BIG AROUND AS THIS STRING.

Then ask:

> YOUR WAIST IS TWICE AS BIG AROUND AS WHAT PART OF YOUR BODY?

Now ask:

> IF YOU WENT INTO A STORE TO BUY SOME CLOTHES AND A CLERK ASKED YOU HOW BIG YOUR WAIST WAS AND YOU SAID, "TWICE AS BIG AS MY NECK," WHAT WOULD THE CLERK DO?

At this time, point out to the students that: twice around your thumb is once around your wrist; twice arou
your wrist is once around your neck; twice around your neck is once around your waist is interesting and cleve
but that it has little practical value.

Before students practice using a ruler, have them compl
Worksheet 1-8. Use the results of this worksheet only
a guide for yourself in determining how much difficulty
your class will have in doing the next part of this activity.

After determining how much previous experience students
have had with measurement skills, you will either have
review or introduce the following concepts.

1. Identify which marks on the ruler correspond to inches.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ts have a string twice as long as their y:	
T OF YOUR BODY THAT IS AS BIG THIS STRING.	--will try the string around various parts of the body and conclude that their waist is the part of the body that the string fits.
IS TWICE AS BIG AROUND AS WHAT PART DY?	--respond, "My neck."
T INTO A STORE TO BUY SOME CLOTHES K ASKED YOU HOW BIG YOUR WAIST WAS ID, "TWICE AS BIG AS MY NECK," THE CLERK DO?	--should realize the shortcomings of the measurement and respond, "Laugh," "Think I was crazy," etc.
oint out to the students that: twice mb is once around your wrist; twice around nce around your neck; twice around your ound your waist is interesting and clever little practical value.	
practice using a ruler, have them complete Use the results of this worksheet only as rself in determining how much difficulty have in doing the next part of this	
ng how much previous experience students easurement skills, you will either have to duce the following concepts.	
which marks on the ruler correspond to	

MATERIALS

TEACHING STRATEGIES

2. Begin to measure from the end of the ruler that has the "1" on it.

3. The end of the ruler (with the "1" on it) needs to be placed flush against one end of what is to be measured.

4. The number on the ruler that is closest to where the object being measured ends, is the number of units long it is.

5. If the object being measured is longer than one ruler, place one's finger where the ruler ends, lift the ruler, and place the beginning of it next to the finger.

Do not be concerned with the ability to convert feet to inches, feet to yards, etc. If the student at this point can make simple measurements in inches, it will be sufficient.

Then ask:

HOW CAN YOU MEASURE YOUR WAIST?

Now distribute rulers to each student.

DISTRIBUTE

Give students a great deal of practice time with the ruler. Have them measure the things outlined below. Circulate among the students as they measure and give them appropriate help. Have them record their measurements on a piece of paper so you can verify that they are measuring correctly. Things they should measure are outlined below:

CHING STRATEGIES

re from the end of the ruler that
it.

ruler (with the "1" on it) needs
lush against one end of what is
.

the ruler that is closest to where
ng measured ends, is the number of
is.

being measured is longer than one
ne's finger where the ruler ends,
, and place the beginning of it
nger.

with the ability to convert feet to
s, etc. If the student at this point
urements in inches, it will be

SURE YOUR WAIST?

s to each student.

DISTRIBUTE MATERIALS

t deal of practice time with the ruler.
e things outlined below. Circulate
s they measure and give them appro-
hem record their measurements on a
u can verify that they are measuring
hey should measure are outlined below:

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "With a ruler," "Measure the string."

MATERIALS

TEACHING STRATEGIES

1. Their waist
2. Their neck
3. Their desk (width)
4. Their math book
5. Their hand span
6. The pond
7. Any other objects you have of interest in your room.

A practical application of the students' ability to measure and estimate distances is found in the use of the Polaroid camera provided in the kit.

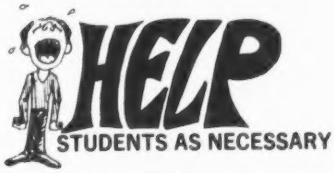
Place pieces of masking tape on the floor of your room three, five, and eight feet apart. Have students during free time periods practice focusing the camera at those distances. Have them measure the distances to verify that they are accurate with both the camera and a ruler. After they have become efficient at focusing with the marks on the floor in view, have them estimate distances with objects such as desks in the way.

At this point students should be able to give a possible explanation for blurred pictures that they have produced in the past: they did not estimate the distance accurately and therefore had the camera focused incorrectly.

NG STRATEGIES	ANTICIPATED STUDENT BEHAVIORS

th)

ts you have of interest in your



of the students' ability to
tances is found in the use of the
in the kit.

tape on the floor of your room
eet apart. Have students during
ce focusing the camera at those
asure the distances to verify
ith both the camera and a ruler.
fficient at focusing with the
ew, have them estimate distances
ks in the way.

hould be able to give a possible
pictures that they have produced
t estimate the distance accurately,
mera focused incorrectly.

UNIT 1, CORE B

ACTIVITY 1-21: "Measurement In My Environment"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: (Number) Name students you noted especially:

	(Number)	Name students you noted especially
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	#	#	Game #	Slides (show slide nos.)	Transparency #	#	#	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

BSCS Evaluation: EMH Feedback Form 1c

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s)________________:

17. Did all students engage in measuring a number of objects in the classroom?
☐ Yes ☐ No: If not, why?

18. How many students had difficulty answering the three questions about measuring on Worksheet 1-8?
☐ None ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

ACTIVITY 1-21: "Measurement In My Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
4. Understand that his environment includes the whole Earth.

CORE B OBJECTIVES:

1. Explore a variety of environmental components and examine their properties and characteristics.
2. Group things according to observable attributes, sources, or functions.
3. Practice making estimates and predictions.
4. Determine new relationships he has with his environment.

MATERIALS

TEACHING STRATEGIES

Activity 1-22. Review Of Success

The purpose of this activity is to make the student aware of what he has learned in this core. The exercises provide opportunities for you to praise his success or provide encouragement and further help. Students are asked to estimate and measure length, group objects, and answer several questions.

OR THIS ACTIVITY

plore his immediate environment through
variety of sensory experiences and
sical contacts.

derstand that his environment includes
whole Earth.

CTIVES:

plore a variety of environmental
mponents and examine their properties
d characteristics.

oup things according to observable
tributes, sources, or functions.

actice making estimates and predictions.

termine new relationships he has with
environment.

UNIT I. EXPLORING MY ENVIRONMENT

CORE B. INVESTIGATING MY ENVIRONMENT

ACTIVITY 1-22. REVIEW OF SUCCESS

BSCS

TEACHING STRATEGIES

eview Of Success

is activity is to make the student
has learned in this core. The exer-
portunities for you to praise his
de encouragement and further help.
d to estimate and measure length,
d answer several questions.

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have cut Worksheet 1-9 apart and sorted pictures into plants and animals.*
- *--have estimated and measured the lengths of two strips of paper.*
- *--have answered the questions on Worksheet 1-10.*
- *--have discussed his answers on Worksheets 1-9 and 1-10.*

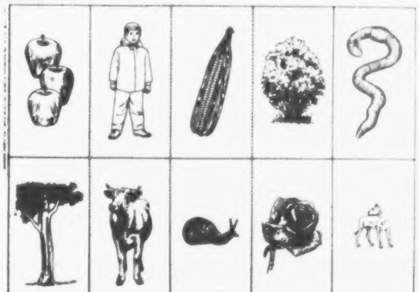
ACTIVITY 1-22

(166)

MATERIALS

*35mm Slide projector
Slides 1-36 through 1-40
Worksheet 1-9
*Scissors, one per student
*Stapler
Worksheet 1-10
*1 Strip of paper 1" X 8 1/2"
*Paper strips, 1 per student
1" X 3 1/2"
1" X 18"
*12" Rulers, 1 per student

Worksheet 1-9



*Not furnished in materials kit

TEACHING STRATEGIES

Begin by asking each of the students to take out a pencil and one sheet of paper. Have them write their names at the tops of the pages. Then have each of them write the heading "Plants" on the left side of the page and "Animals" on the right side.

Distribute Worksheet 1-9 and a pair of scissors to each student. First have different students identify the pictures.

DISTRIBUTE

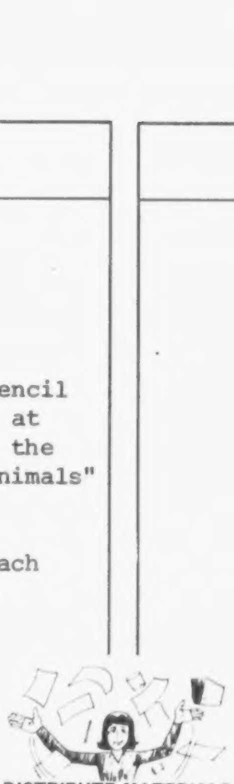
Say:

CUT ALL THE PICTURES APART ON THE DOTTED LINES.

When most have finished cutting, say:

NOW TAKE THE PICTURES YOU CUT OUT AND PUT THEM INTO TWO GROUPS -- PLANTS AND ANIMALS. PUT THE PILE OF PLANT PICTURES UNDER THE WORD PLANTS ON YOUR PAPER. PUT THE ANIMAL PICTURES UNDER THE WORD ANIMAL ON YOUR PAPER. RAISE YOUR HAND WHEN YOU HAVE FINISHED AND I WILL STAPLE THE PICTURES TO YOUR PAPER.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
each of the students to take out a pencil paper. Have them write their names at pages. Then have each of them write the ' on the left side of the page and "Animals" le. heet 1-9 and a pair of scissors to each have different students identify the	



HAVE YOU
INVOLVED
ALL
STUDENTS?

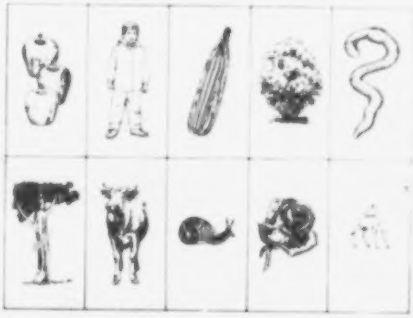
: PICTURES APART ON THE DOTTED LINES.

inished cutting, say:

IE PICTURES YOU CUT OUT AND PUT THEM ROUPS -- PLANTS AND ANIMALS. PUT THE NT PICTURES UNDER THE WORD PLANTS ON PUT THE ANIMAL PICTURES UNDER THE ON YOUR PAPER. RAISE YOUR HAND WHEN NISHED AND I WILL STAPLE THE PICTURES ER.

MATERIALS

Slide 1-36



Worksheet 1-10 (front)

TEACHING STRATEGIES

Students should have a high degree of success with this activity. As you staple and collect each paper, glance at the plant group. You should find the five plants (apples, bush, corn, rose, tree) and no animals in this pile. Praise the performance (GOOD, YOU GOT THEM ALL RIGHT BUT ONE!) or if there are many mistakes in grouping, give encouragement (THAT IS A GOOD TRY! THIS IS HARD TO DO ISN'T IT?) and plan to help the student at a later time. After class, complete Tallysheet 1-4.

When all papers and scissors have been collected, project Slide 1-36. Have students identify which are plants and animals, answer questions, and again praise their success.

Now distribute Worksheet 1-10 and have students write thei names on them.

Say:

> WE ARE GOING TO ANSWER SOME QUESTIONS ON THIS WORKSHEET. WRITE DOWN YOUR ANSWER, BUT DO NOT TELL ANYONE WHAT YOUR ANSWER IS UNTIL WE TALK ABOUT IT LATER.
>
> BEFORE WE BEGIN THE WORKSHEET, LOOK AT THIS STRIP OF PAPER.

Hold up the 1" X 8 1/2" strip of paper.

> (Student's name), ABOUT HOW LONG DO YOU THINK THIS PIECE OF PAPER IS? CAN YOU MAKE A GOOD GUESS?

> If the student does not name inches as a unit of measure, ask if he is talking about yards or feet or inches. Elicit answers from several students and write their estimates on the chalkboard by the phrase, "My Guess."

TEACHING STRATEGIES

ave a high degree of success with this
u staple and collect each paper, glance
up. You should find the five plants
orn, rose, tree) and no animals in this
e performance (GOOD, YOU GOT THEM ALL RIGHT
here are many mistakes in grouping, give
HAT IS A GOOD TRY! THIS IS HARD TO DO
lan to help the student at a later time.
plete Tallysheet 1-4.

nd scissors have been collected, project
e students identify which are plants and
uestions, and again praise their success.

orksheet 1-10 and have students write their

G TO ANSWER SOME QUESTIONS ON THIS
WRITE DOWN YOUR ANSWER, BUT DO NOT
WHAT YOUR ANSWER IS UNTIL WE TALK
ER.

EGIN THE WORKSHEET, LOOK AT THIS
PER.

8 1/2" strip of paper.

name), ABOUT HOW LONG DO YOU THINK
F PAPER IS? CAN YOU MAKE A GOOD

student does not name inches as a unit
sure, ask if he is talking about yards
or inches. Elicit answers from several
s and write their estimates on the chalk-
y the phrase, "My Guess."

ANTICIPATED STUDENT BEHAVIORS

Students:

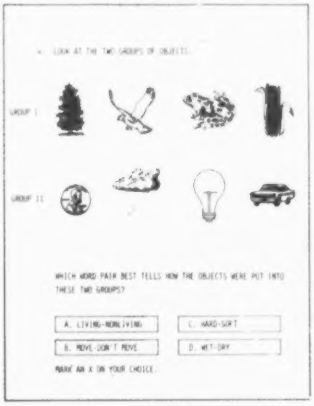
--respond with various lengths from 6" to 12".

ACTIVITY 1-22

(168)

MATERIALS

Worksheet 1-10 (back)



4. LOOK AT THE TWO GROUPS OF OBJECTS.

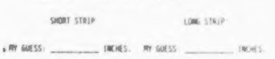
GROUP I
GROUP II

WHICH WORD PAIR BEST TELLS HOW THE OBJECTS WERE PUT INTO THESE TWO GROUPS?

A. LIVING-NONLIVING
C. HARD-SOFT
B. MOVE-DON'T MOVE
D. WET-DRY

MARK AN X ON YOUR CHOICE.

Slide 1-37



1. GUESS THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER. WRITE YOUR GUESSES ON THE LINES BELOW.

SHORT STRIP LONG STRIP

MY GUESS: ________ INCHES. MY GUESS ________ INCHES.

TEACHING STRATEGIES

Then say:

> HOW CAN WE FIND OUT FOR SURE HOW LONG THE PAPER IS?

Select a volunteer to measure the paper and tell the cla its length. Write "8 1/2" on the chalkboard next to a rough sketch of a ruler.

Say:

> NOW I AM GOING TO GIVE EACH OF YOU A SHORT STRIP OF PAPER AND A LONG STRIP OF PAPER.

Distribute the strips. Be sure each student has a long and a short strip.

Project Slide 1-37 and say:

> LOOK AT NUMBER 1 ON YOUR WORKSHEET. IT SAYS, "GUESS THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER." FIRST LOOK AT THE SHORT STRIP AND WRITE YOUR BEST GUESS WHERE IT SAYS, "SHORT STRIP. MY GUESS _____." THEN LOOK AT THE LONG STRIP AND WRITE YOUR GUESS WHERE IT SAYS, "LONG STRIP. MY GUESS _____."

When all have written a response, pass out a ruler to each student.

ACHING STRATEGIES

) OUT FOR SURE HOW LONG THE

:o measure the paper and tell the class
'8 1/2" on the chalkboard next to a
ıler.

TO GIVE EACH OF YOU A SHORT
AND A LONG STRIP OF PAPER.

ps. Be sure each student has a long

and say:

1 ON YOUR WORKSHEET. IT SAYS,
GTH OF THE SHORT AND LONG STRIPS
RST LOOK AT THE SHORT STRIP AND
T GUESS WHERE IT SAYS, "SHORT STRIP.
." THEN LOOK AT THE LONG STRIP AND
SS WHERE IT SAYS, "LONG STRIP. MY

en a response, pass out a ruler to

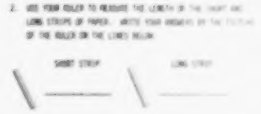
ANTICIPATED STUDENT BEHAVIORS

Students:

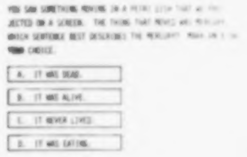
--respond, "Measure it with a ruler."

MATERIALS

Slide 1-38



Slide 1-39



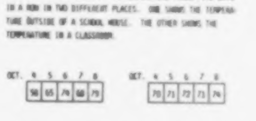
A. IT WAS DEAD.

B. IT WAS ALIVE.

C. IT NEVER LIVED.

D. IT WAS EATING.

Slide 1-40



4. BELOW ARE RECORDS OF THE TEMPERATURE TAKEN FIVE DAYS IN A ROW IN TWO DIFFERENT PLACES. ONE SHOWS THE TEMPERATURE OUTSIDE OF A SCHOOL HOUSE. THE OTHER SHOWS THE TEMPERATURE IN A CLASSROOM.

MARK AN X ON THE RECORD THAT SHOWS THE OUTSIDE TEMPERATURES.

TEACHING STRATEGIES

Project Slide 1-38 and say:

> LOOK AT NUMBER 2 ON YOUR WORKSHEET. IT SAYS, "USE YOUR RULER TO MEASURE THE LENGTH OF THE SHORT AND LONG STRIPS OF PAPER. WRITE YOUR ANSWERS BY THE PICTURE OF THE RULER ON THE LINES BELOW."
>
> FIRST MEASURE THE SHORT STRIP AND WRITE YOUR ANSWER ON THE LINE BELOW THE WORDS "SHORT STRIP" HERE.

Point to the blank. When students have written their answers for the short strip of paper, direct them to measure the long strip of paper. Then say:

> IN A LITTLE WHILE WE WILL TALK ABOUT OUR ANSWERS, BUT FIRST LET'S FINISH THE WORKSHEET.

Continue to project Slides 1-39 and 1-40 and read each question and the answers aloud. Repeat the item a second time and allow ample time for students to mark their worksheets.

After all students have had the opportunity to answer all of the questions, collect the worksheets. Then project each slide and discuss the answers with them. Have them defend their choices. After class, tally the students' answers on Tallysheet 1-4. Consider whether the whole class needs further review or if a few individuals need attention.

ACHING STRATEGIES

ANTICIPATED STUDENT BEHAVIORS

DISTRIBUTE MATERIALS

nd say:

2 ON YOUR WORKSHEET. IT SAYS,
TO MEASURE THE LENGTH OF THE
TRIPS OF PAPER. WRITE YOUR
ICTURE OF THE RULER ON THE

HE SHORT STRIP AND WRITE YOUR
INE BELOW THE WORDS "SHORT STRIP"

When students have written their
t strip of paper, direct them to
ip of paper. Then say:

LE WE WILL TALK ABOUT OUR
RST LET'S FINISH THE WORKSHEET.

Slides 1-39 and 1-40 and read each
wers aloud. Repeat the item a second
time for students to mark their work-

ave had the opportunity to answer all
llect the worksheets. Then project
ss the answers with them. Have them
. After class, tally the students'
t 1-4. Consider whether the whole
review or if a few individuals need

Teacher ______________________

Date ______________________

UNIT I, CORE B

TALLYSHEET 1-4: Tally of Plant/Animal Groups and Worksheet 1-10

ACTIVITY 1-22: "Review Of Success"

Column 1 (Correct Groups). Indicate whether each student's groups were correctly sorted into plants and animals. To do this, check only the plant stack of pictures. Circle yes if all five plants are grouped correctly. Circle no if some of the plants are missing or animals are included.

Column 2 (Errors). Circle any plants that were omitted and any animals that were included in the plant group.

Tally of Worksheet 1-10. See the back of this tallysheet for instructions to score Worksheet 1-10.

		1 (Correct Groups)		2 (Errors)									
				Plants					Animals				
Attach ID list here.	01	yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm

		1 (Correct Groups)		2 (Errors)									
				Plants					Animals				
Attach ID list here.	01	yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm
		yes	no	apples	bush	corn	rose	tree	boy	cow	dog	snail	worm

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No
If not, what other evidence do you have of student learning?

TALLYSHEET 1-4: Tally of Plant/Animal Groups and Worksheet 1-10

Tally of Worksheet 1-10. Tally each student's responses to Worksheet 1-10 by writing in their estimates of the paper strips in column 1, and their measurements of the strips in column 2. Circle the letter of the option marked for items 3 and 4. Use this summary to decide if further review of measuring or grouping is necessary. If students answer that the mercury was alive or eating, repeat the activity explaining the materials used carefully to correct this impression. Reemphasize how our senses can sometimes fool us.

		1 (Estimates)		2 (Measurements)		3 (Mercury)	4 (living/nonliv.)
		3 1/2"	18"	3 1/2"	18"	KEY: A B [✓ C] D	[✓ A] B C D
Attach Id list here.	01					A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D
						A B C D	A B C D

				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D
				A B C D	A B C D

TOTAL INACCURATE RESPONSES_____ _____ _____ _____

Interpreting Estimates. Now review the estimates (column 1) and make a check mark by each estimate of 3 1/2" that is over 6" or is 1" or less. Check any estimates of 18" that are under 12" or over 24". This will reveal the number of students who do not have a rough sense of how much an inch or foot is. This knowledge is related to how much previous experience with measuring your group has had. Do not be concerned if their estimates are off. Just keep their inexperience in mind and give them opportunities to estimate and measure things.

Interpreting Measurements. Review the measurements recorded above and check each one that is off by more than one-fourth inch. This is a manipulative skill that may require further practice. Look for ways to make this practice fun and interesting.

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No

If not, what other evidence do you have of student learning?

ACTIVITY 1-22: "Review Of Success"

Activity name suggested by class:

Teacher

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: (Number)

Name students you noted especially:

HIGH INTEREST ______ → ______ ______ ______ ______
MODERATE INTEREST ______
INDIFFERENCE ______
MODERATE RESISTANCE ______
STRONG DISLIKE ______ → ______ ______ ______ ______
HARD TO RATE ______

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No - Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No - Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did any students give away the answer to any item on Worksheet 1-9 and 1-10?
☐ No ☐ Yes: Comment.

18. Please complete Tallysheet 1-4 and the "Reactions to the Core" questionnaire in your Guide and send in with this form.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

BSCS Evaluation: **EMH Feedback Form 1c**

UNIT I, CORE B
ACTIVITY 1-22: "Review Of Success"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

UNIT I
REACTIONS TO CORE B

1. Was the background information for this core adequate? ☐ Yes ☐ No
   Comment:

2. Was it clear to you why these particular activities were chosen and the direction they were leading? ☐ Yes ☐ No
   Comment:

3. Did the activities fulfill the purposes stated in the Guide for this core? ☐ Yes ☐ No
   Comment:

4. How would you increase the clarity of this core for students? (Help them understand why they are doing these activities.)

5. Is there a practical (take-home) value for your students in these activities? ☐ Yes ☐ No
6. If yes, what do you see as the "take-home" lesson? If no, what is needed?

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No
   Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No
   Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No
    Comment:

BSCS Evaluation: **EMH Feedback Form 2a**

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No
Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No
Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No
Comment:

11. If you could teach your way, rather than following the Guide, how would you do it?

12. Which of your students do you believe were unsuccessful in achieving the objectives of this core of activities? Explain.

SIDE A

NEW STUDENTS ENTERING DURING THIS CORE

Date Entered	Last Name Name Used	Ethnic Group	Sex	Birthdate	Test date	Test	Tota
		W B S O	M F			W B O	
		W B S O	M F			W B O	
		W B S O	M F			W B O	
		W B S O	M F			W B O	

STUDENTS DROPPED IN THIS PERIOD

Date Dropped	Last Name First

W = white
B = black
S = Spanish-American
O = other

W = WISC
B = Binet
O = other (name)

ADDITIONAL INFORMATION ON NEW STUDENTS:

STUDENTS ENTERING DURING THIS CORE

Birthdate	Test date	Test	Total	Verbal	Performance	Previous Test Score
		W B O				
		W B O				
		W B O				
		W B O				

W = WISC
B = Binet
O = other
(name)

SIDE B

Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

AIMS FOR ME AND MY ENVIRONMENT

1. DEVELOPMENT IN EACH CHILD OF A SENSE OF IDENTITY AS A PERSON WHO HAS SOME DEGREE OF CONTROL OVER AND CAN ACT ON HIS ENVIRONMENT. This will lead to a degree of self-determination based on a rational coping with situations rather than on a passive compliance or an impulsive response to problems.
2. DEVELOPMENT IN EACH CHILD OF A SUCCESS SYNDROME. More than anything else, each activity is intended to be a success experience for each child. It is the teacher's responsibility -- almost obligation -- to see that each child succeeds at a level that is challenging to his abilities and that preserves his self-respect. It is a further responsibility of the teacher to point out his achievement. The students as a group should help each individual fit what he has done into a pattern of accomplishment.
3. DEVELOPMENT IN EACH CHILD OF AN INTEREST THAT COULD BECOME A HOBBY OR AVOCATION OVER A LIFETIME (through an exposure to an array of experiences in science). It is hoped that many children will find some area -- perhaps growing plants, caring for animals, identifying flowers, collecting things, or simply enjoying outings into the country -- that they feel strongly about and can develop some competence or knowledge in. This would provide a means of self-expression, and (perhaps) allow some degree of sharing or involvement with others.
4. DEVELOPMENT IN EACH CHILD OF A SENSE OF RELATIONSHIP AND EMPATHY WITH OTHER LIVING THINGS. It is hoped that this will lead to a positive regard and caring about what affects them as individuals and as a group, because what affects them affects the community of man.
5. DEVELOPMENT IN EACH CHILD OF AN UNDERSTANDING OF ENVIRONMENTAL CONDITIONS that will lead to a sense of responsibility for the environment and actions that protect or improve it.

1. Explore his immediate envir
physical contacts.
2. Recognize the environmental
3. Create a greater interest i
environment.
4. Understand that his environ

1. Become aware that there are
serve to orient him to his
2. Examine a variety of habitat
3. Appreciate the aesthetic and
4. Associate the Earth with a

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

BSCS

UNIT I GOALS

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

OBJECTIVES OF CORE C

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

Me and my Environment

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

CORE C RATIONALE

In the previous cores, students explored and investigated their immediate environment -- the classroom, the school grounds, and so on. Each of us has such an environment, of course; it is that small part of the world that is familiar to us and that we see almost every day. It is becoming increasingly obvious, however, that the entire world is the environment all of us must claim if we are to survive. In this day and age it is difficult to remain isolated from other areas or environments. To be knowledgeable about our immediate environment does not solve the problems associated with the entire world environment. Man is only beginning to see the broad systems of which he is but one of the parts. Because some of man's most pressing environmental problems (overpopulation, depletion of resources, pollution, floods, wise land use) cannot be understood and solved through strictly a local view, it is important that man develop an awareness of the broad features and mechanisms of his environment. The student cannot really appreciate the environmental setting in which he lives without knowing something about the total picture.

The activities in this core have been designed to lead the student toward an understanding of his relationship with the larger environment. To experience vicariously a journey that covers habitats around the world, and then to explore the vastness of space on an imaginary trip to the Moon and back, is a large order. The degree of comprehension will vary considerably with each student, but in a day when extensive TV coverage of space flights is common, this may not be as difficult as one might imagine.

The compass in Activity 1-23 (Establishing Environmental Landmarks) is introduced as a tool to stimulate student interest in establishing the direction of familiar landmarks in his community. From landmarks in the community, the student then is exposed to an imaginary trip to examine habitats for man around the world. Through the discussion of likenesses and

The use of a c
Environmental Landm
orient himself to h
compass needle is a
toy magnets. This
the process the stu
a giant magnet, whi
this activity not t
buildings because t
than to the Earth's

In Activity 1-
may not have had th
may or may not be s
of questions, and w
slanted roof will s
steeper the roofline
hogans and adobe ho
and the lack of veg
must be low in thes
density must be bui
tropics must allow
rather than for uti

In Activity 1-
kinds of materials
"fun" activity and
creativity.

The primary
to restate and revi

The last activ
from the Moon to Ea

IIT I. EXPLORING MY ENVIRONMENT

RE C. LANDMARKS IN MY ENVIRONMENT

BSCS

ed their
and so
at small
ost
at the
re to
ated
our
with
the
some
n,
nnot
s
es
ly
ut

the
larger
rs
of
order.
h
lights
.

al
rest

en

BACKGROUND INFORMATION FOR THE TEACHER

The use of a compass is introduced in Activity 1-23 (Establishing Environmental Landmarks) to stimulate student interest in learning to orient himself to his environment. A magnet is first used because the compass needle is a magnet and most students are familiar with little toy magnets. This makes the compass less formidable as a tool, and in the process the student may understand that the earth itself is like a giant magnet, which is why a compass works. It is important for this activity not to be carried out near steel fences or steel frame buildings because the magnet will then be attracted to metal rather than to the Earth's magnetic poles.

In Activity 1-25 (Homes And Habitats In My World), the students may not have had the necessary experience to know why certain structures may or may not be suited to a particular environment. Through the use of questions, and with careful observation, they should surmise that a slanted roof will shed rain and snow more efficiently, and that the steeper the roofline, the more efficient the shedding will be. Navajo hogans and adobe houses are cool in the summer and warm in the winter, and the lack of vegetation may help the student infer that precipitation must be low in these habitats. Homes in places of high population density must be built to utilize space efficiently. Homes in the tropics must allow for openness. Some homes are designed for aesthetic rather than for utilitarian purposes.

In Activity 1-26 (A Recycled Spaceship), encourage the use of all kinds of materials for making the spaceships. This is primarily a "fun" activity and students should be allowed to express individual creativity.

The primary purpose of Activity 1-27 (To The Moon In Our Room) is to restate and review vital needs in a life support system.

The last activity is a cluminating view which spans the distance from the Moon to Earth in order to convey some understanding that the

CORE C RATIONALE (continued)

differences in homes, the student should become aware of the commonality of certain vital needs. As homes are being discussed, an attempt is made to introduce the concept of a habitat as all the things surrounding the place where a person or a living thing is most generally found.

The space flight serves to develop an understanding that there are certain vital life needs that we may sometimes take for granted and which only the earth can provide. A few short activities will hardly suffice to develop a full understanding that the Earth is like a finite spaceship, but students should become aware that it is the only place we know of that can furnish materials necessary for life.

On the return trip from the Moon, at splashdown drops of water are seen on the capsule; then the scene shifts to a drop of water on a leaf. The student is asked to speculate about whether the drop of water could itself be a habitat.

BACK

Earth is the onl
any length of ti

re of the common-
iscussed, an
at as all the
ving thing is

nding that there
take for granted
activities will
the Earth is like
e that it is the
cessary for life.

n drops of water
drop of water
whether the drop

BACKGROUND INFORMATION FOR THE TEACHER (continued)

Earth is the only place we know where vital needs can be supplied for any length of time, and that man is totally dependent upon it.

Me and my Environment

UNIT I
CORE C

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ☛ *in* be prepared several days or weeks in advance. Use a teaching and preparation schedule. All supplies

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	*(Italic*
1-23. Establishing Environmental Landmarks Page _____ Date planned _____	Rulers Paper clips String	Compasses Bar magnets Worksheet 1-11 Slide 1-41	One per stu One box 18" Piece p One per stu One per tea Treasure Hu Worksheet 1
1-24. Landmarks And Habitats In My Environment Page _____ Date planned _____	Maps of your school and the surrounding area One map of the school area mounted on cardboard Felt pen Pins with small paper flag for identification of appropriate sites on the master map		*One per stu given in* *This will s* *Directions*
1-25. Homes And Habitats In My World Page _____ Date planned _____	World map 35mm Slide projector	Slide 1-42 Slide 1-43 Slide 1-44 Slide 1-45 Slide 1-46 Slide 1-47 Slide 1-48	One Alaskan coa Japanese ho Farm New Mexico Small house Modern apar Mobile home

PLANNING GUIDE

es (*indicated in italics and an* ⬋ *in the margin*) must
everal days or weeks in advance. Use this summary as
d preparation schedule. All supplies needed are listed.

BSCS

plies Needed aterials in Supply Kit	Notes and Suggestions to Teacher *(Italics and Arrow Indicate Advance Preparation Directions)*
	One per student
	One box
	18" Piece per team of three students
mpasses	One per student
r magnets	One per team of three students
rksheet 1-11	Treasure Hunt
ide 1-41	Worksheet 1-11
	One per student. Suggested places for securing the maps are given in the activity.
	This will serve as a master map.
	Directions for making the pins are given in the activity.
	One
ide 1-42	Alaskan coast
ide 1-43	Japanese home
ide 1-44	Farm
ide 1-45	New Mexico pueblo
ide 1-46	Small house
ide 1-47	Modern apartments
ide 1-48	Mobile homes

Me and my Environment

UNIT I
CORE C

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ➤ *in th*
be prepared several days or weeks in advance. Use th
a teaching and preparation schedule. All supplies ne

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed: Materials You Furnish	Check List of Supplies Needed: Materials in Supply Kit	(*Italics*
1-25. Homes And Habitats In My World (Continued)		Slide 1-49	Rural home
		Slide 1-50	Rural Chinese
		Slide 1-51	New York sky
		Slide 1-52	Thailand cana
		Slide 1-53	Suburban
		Slide 1-54	Swiss Alps
		Slide 1-55	Arizona - Nav
		Slide 1-56	Eastern Asian
➤ 1-26. A Recycled Spaceship Page _____ Date planned _____	Styrofoam cups (recycled)		➤ *Collect in ad home, or an student.*
	Other scrap materials		*Collect in ad* *Scraps of* *Constructio* *Paper tubes* *Plastic bo* *Tin cans* *Wire* *String, etc*
	Cellophane tape or white glue		Class supply
	Scissors		One pair per
	Globe		One
		Camera (Polaroid Square Shooter)	

PLANNING GUIDE

ties (*indicated in italics and an* ➤ *in the margin*) must several days or weeks in advance. Use this summary as and preparation schedule. All supplies needed are listed.

BSCS

pplies Needed	Notes and Suggestions to Teacher (*Italics and Arrow Indicate Advance Preparation Directions*)
Materials in Supply Kit	
Slide 1-49	Rural home
Slide 1-50	Rural Chinese farm
Slide 1-51	New York skyline
Slide 1-52	Thailand canal house
Slide 1-53	Suburban
Slide 1-54	Swiss Alps
Slide 1-55	Arizona - Navajo hogan
Slide 1-56	Eastern Asian plantation
	➤ *Collect in advance from your teachers' lounge, local restaurant, home, or any other place you can find them. At least five per student.*
	Collect in advance from any available source: *Scraps of wood* *Construction paper* *Paper tubes* *Plastic bottles* *Tin cans* *Wire* *String, etc.*
	Class supply
	One pair per student
	One
Camera (Polaroid Square Shooter)	

Me and my Environment

UNIT I
CORE C

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ☛ *in th*
be prepared several days or weeks in advance. Use th
a teaching and preparation schedule. All supplies ne

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		*(Italics*
	Materials You Furnish	Materials in Supply Kit	
1-27. To The Moon In Our Room	Large box with cover		*May be obtai factory sh*
	Art materials to decorate space capsule		Class suppli Paint, bru
Page _____ Date planned _____	35mm Slide projector		
		Slide 1-57	Starving ast
		Slide 1-58	Astronaut wi
		Slide 1-59	Astronaut tr
		Slide 1-60	Astronaut in
		Slide 1-61	Astronaut wi
		Slide 1-62	Astronaut pl
		Slide 1-63	Astronaut ru
		Slide 1-64	Astronaut ou
1-28. Far Out Habitats	35mm Slide projector		
		Slide 1-65	Spaceship in
Page _____ Date planned _____		Slide 1-66	Moonscape -
		Slide 1-67	Craters and
		Slide 1-68	Moonscape -
		Slide 1-69	Earth in spa
		Slide 1-70	Ocean - Blue
		Slide 1-71	Ocean - clos
		Slide 1-72	Splash down
		Slide 1-73	Spray of wat

PLANNING GUIDE

ctivities (*indicated in italics and an* ➘ *in the margin*) must
pared several days or weeks in advance. Use this summary as
ching and preparation schedule. All supplies needed are listed.

BSCS

f Supplies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	*(Italics and Arrow Indicate Advance Preparation Directions)*
	May be obtained from a furniture store, appliance store, factory shipping room, grocery store, etc. ➘
	Class supplies as suggested such as: Paint, brushes, crayons, construction paper, glue, scissors, etc.
Slide 1-57	Starving astronaut
Slide 1-58	Astronaut with claustrophobia
Slide 1-59	Astronaut trying to yell back to earth
Slide 1-60	Astronaut in the dark
Slide 1-61	Astronaut with air tube in knot
Slide 1-62	Astronaut playing checkers with himself
Slide 1-63	Astronaut running to outhouse
Slide 1-64	Astronaut out of water
Slide 1-65	Spaceship in flight
Slide 1-66	Moonscape - Astronaut on moon
Slide 1-67	Craters and mountains on moon
Slide 1-68	Moonscape - Earth rising
Slide 1-69	Earth in space
Slide 1-70	Ocean - Blue water, clouds, and land
Slide 1-71	Ocean - closer view
Slide 1-72	Splash down capsule
Slide 1-73	Spray of water on windshield

Me and my Environment

UNIT I
CORE C

PLANNING GUIDE

NOTE: Some activities (*indicated in italics and an* ☛ *i*
be prepared several days or weeks in advance. Us
a teaching and preparation schedule. All supplie

Activity Number, Page, Tentative Teaching Date	Check List of Supplies Needed		
	Materials You Furnish	Materials in Supply Kit	(*Ita*
1-29. Review Of Success Page _____ Date planned _____	35mm Slide projector	Worksheet 1-12 Worksheet 1-13 Slide 1-74 Slide 1-75 Slide 1-76 Slide 1-77 Slide 1-78	Review O Review O Review O Review O Review O Review O Review O

PLANNING GUIDE

ies (*indicated in italics and an* ↙ *in the margin*) must
several days or weeks in advance. Use this summary as
nd preparation schedule. All supplies needed are listed.

BSCS

plies Needed	Notes and Suggestions to Teacher
Materials in Supply Kit	(*Italics and Arrow Indicate Advance Preparation Directions*)
rksheet 1-12	Review Of Success Questions 1-5
rksheet 1-13	Review Of Success Questions 6-7
ide 1-74	Review Of Success Questions 1, 2, and 3
ide 1-75	Review Of Success Question 4
ide 1-76	Review Of Success Question 5
ide 1-77	Review Of Success Question 6
ide 1-78	Review Of Success Question 7

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.

MATERIALS

TEACHING STRATEGIES

Activity 1-23. Establishing Environmental Landmarks

In the preceding cores we have defined, become better acquainted with, and investigated our environment. The intent in this core is to give the student an overview of his total environment.

The purpose of this activity is to help the student establish environmental landmarks which will serve to better orient himself in his environment.

R THIS ACTIVITY

lore his immediate environment through
riety of sensory experiences and
ical contacts.

te a greater interest in, and a more
itive attitude toward, his environment.

erstand that his environment includes
whole Earth.

TIVES:

me aware that there are certain
ronmental landmarks and that these
serve to orient him to his environment.

EACHING STRATEGIES

stablishing Environmental Landmarks

ores we have defined, become better
nd investigated our environment. The
e is to give the student an overview
onment.

s activity is to help the student
mental landmarks which will serve to
elf in his environment.

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-23. ESTABLISHING ENVIRONMENTAL LANDMARKS

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have observed a simple compass made from a bar magnet and a string.*
- *--have used a commercial compass to find "North."*
- *--have located some environmental landmarks near his school.*
- *--have practiced measuring and direction skills on Worksheet 1-11.*

ACTIVITY 1-23

(176)

MATERIALS

Compass (1 per student)
Slide 1-41
Worksheet 1-11
Bar magnet (1 per team of three students)
*String (18" per team of three students)
*Paper clips (one box)
*Rulers (1 per student)
*35mm Slide projector

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. When working with the magnets and compasses, students should be taken outside so they can stand apart from one another and therefore prevent the magnets from attracting one another.
2. Do not distribute the compasses until after the students have had an opportunity to work with the magnets. In order to distribute them while the students are out of doors, it will be necessary to have them in a container that can be easily handled.

Distribute a bar magnet to each team of three students.

DISTRIBUTE N

Then ask:

DO YOU KNOW WHAT THIS BAR IS CALLED?

Introduce the word magnet if students do not know it.

Then ask:

CAN YOU FEEL ANYTHING COMING FROM THE MAGNET?

WHAT CAN MAGNETS DO?

Now allow students to pick up metal objects with their magnets. Have paper clips available for experimentation.

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
tion:	
ing with the magnets and compasses, should be taken outside so they can rt from one another and therefore prevent ts from attracting one another.	
stribute the compasses until after the have had an opportunity to work with the In order to distribute them while the are out of doors, it will be necessary hem in a container that can be easily	
r magnet to each team of three students.	
DISTRIBUTE MATERIALS	
W WHAT THIS BAR IS CALLED?	--respond, "Magnet," "I don't know."
ord magnet if students do not know it.	
EL ANYTHING COMING FROM THE MAGNET?	--respond, "No."
AGNETS DO?	--respond, "Pick up things," "Stick to things."
nts to pick up metal objects with their paper clips available for experimentation.	

MATERIALS

TEACHING STRATEGIES

Give students ample time to experiment with the magnets and try them with many objects in the room.

Then ask:

DO MAGNETS PICK UP OR STICK TO EVERYTHING?

CAN YOU FEEL MAGNETISM?

CAN YOU SEE MAGNETISM?

Now distribute a piece of string to each team of students and proceed outside.

DISTRIBUTE M

Then say:

TIE ONE END OF YOUR STRING AROUND THE MIDDLE OF YOUR MAGNET AND HOLD THE OTHER END OF THE STRING.

Tell the students to hold the string as still as possible to see if the magnet will stop turning and move only slightly.

When the magnets are relatively still, have students observe the magnets and then ask:

WHAT HAPPENED?

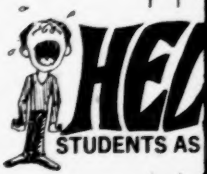
WHAT DIRECTION ARE THEY POINTING?

EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
e time to experiment with the magnets many objects in the room.	
CK UP OR STICK TO EVERYTHING?	--should have experimented enough to respond, "No."
MAGNETISM?	--respond, "No," "I feel a pull."
AGNETISM?	--respond, "No."
iece of string to each team of ed outside.	
DISTRIBUTE MATERIALS	
F YOUR STRING AROUND THE MIDDLE T AND HOLD THE OTHER END OF THE	
to hold the string as still as the magnet will stop turning and .	
re relatively still, have students s and then ask:	
?	--respond, "They all pointed in the same direction."
N ARE THEY POINTING?	--examine the bar magnets, call upon their experience and respond, "North."

MATERIALS

TEACHING STRATEGIES

WHAT DIRECTION IS THE OTHER END POINTING TO?
or WHAT DIRECTION IS OPPOSITE TO NORTH?



Now have all students face north and hold their arms out at their sides.

Ask:

WHAT DIRECTION ARE WE FACING?

WHAT DIRECTION IS TO YOUR LEFT?

If students do not give this response, indicate the right answer and point out that when a person is facing north, west is always to his left.

Then ask:

WHAT DIRECTION IS TO YOUR RIGHT?

Again repeat your strategy to establish that east is to their right. Also make sure students establish east and west as opposite directions.

Then ask:

IN WHAT DIRECTION DOES THE SUN SET EVERY DAY?

IN WHAT DIRECTION DOES THE SUN RISE EVERY DAY?

WHERE IS THE SUN IN THE MIDDLE OF THE DAY?

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
THE OTHER END POINTING TO? IS OPPOSITE TO NORTH?	--respond, "South."
HELP STUDENTS AS NECESSARY	
face north and hold their arms out	
E WE FACING?	--respond, "North."
TO YOUR LEFT?	--respond, "West."
e this response, indicate the right hat when a person is facing north, left.	
TO YOUR RIGHT?	--respond, "East."
tegy to establish that east is to e sure students establish east and tions.	
DOES THE SUN SET EVERY DAY?	--respond, "West."
DOES THE SUN RISE EVERY DAY?	--respond, "The east."
IN THE MIDDLE OF THE DAY?	--respond, "Overhead," "Up."

MATERIALS

TEACHING STRATEGIES

COULD YOU EVER USE THE SUN TO HELP FIND DIRECTIONS?

Allow the student to take the magnet and string home to experiment further with it if he wishes to.

Now distribute a small compass to each student while you're still out of doors and say:

SINCE THE MAGNET IS SOMETIMES HARD TO USE, A COMPASS IS MOST OFTEN USED TO HELP YOU FIND NORTH.

Follow the steps below to show the students how to read their compasses.

Demonstrate by using a compass of your own.

DEMONSTRAT

This may be done outside or inside.

1. Hold the compass flat in your hand and wait until the needle is still.
2. Turn yourself or the compass until the needle marked N points to the N on the face of the compass.

Ask:

WHAT DIRECTION IS THE NEEDLE POINTING?

Have all the students change their positions and again find North using the compass.

St

--

-

CHING STRATEGIES

JSE THE SUN TO HELP FIND

take the magnet and string home to
ıth it if he wishes to.

ıl compass to each student while
loors and say:

T IS SOMETIMES HARD TO USE, A
OFTEN USED TO HELP YOU FIND

ow to show the students how to read

a compass of your own.

DEMONSTRATE

side or inside.

ss flat in your hand and wait until
still.

or the compass until the needle
s to the N on the face of the

IS THE NEEDLE POINTING?

s change their positions and again
compass.

ANTICIPATED STUDENT BEHAVIORS

Students:

--infer, "Yes," "Early and late in the day."

--respond, "North," "The N."

ACTIVITY 1-23

MATERIALS

TEACHING STRATEGIES

Review with the students that if you are facing North, then behind you is South, on your right is East, and on your left is West.

Have students practice with directions by saying things such as:

> TAKE THREE STEPS NORTH. TAKE TWO STEPS SOUTH.
> TAKE FIVE STEPS WEST. TAKE FOUR STEPS EAST.

Ask:

> WHAT DOES THE WORD LANDMARK MEAN?

If the students do not know, tell them that a landmark is anything on the land that doesn't move, such as a tree, a mountain, or a building. It is something that will help them find their way around or identify a particular place.

Have the students locate environmental landmarks around your school within sight, i.e., mountains, buildings, rivers, lakes, streets, parks, etc. Continue to have the students look at their compasses for direction and give the direction that each landmark is from their location.

> WHY IS IT IMPORTANT TO KNOW LANDMARKS?

When the students have returned to the room, distribute Worksheet 1-11 and a ruler to each student.

DISTRIBUTE

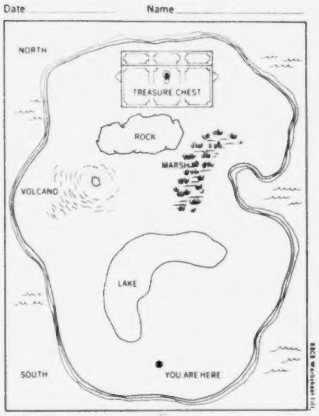
ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
dents that if you are facing North, South, on your right is East, and on	
ice with directions by saying things	
PS NORTH. TAKE TWO STEPS SOUTH. S WEST. TAKE FOUR STEPS EAST.	
WORD LANDMARK MEAN?	--respond, "I don't know," "A mark on the land," "Where something is."
not know, tell them that a landmark is d that doesn't move, such as a tree, a ding. It is something that will help y around or identify a particular place.	
ocate environmental landmarks around sight, i.e., mountains, buildings, eets, parks, etc. Continue to have the eir compasses for direction and give the landmark is from their location.	
RTANT TO KNOW LANDMARKS?	--respond, "So you know what direction things are when you don't have a compass."
ave returned to the room, distribute a ruler to each student.	

DISTRIBUTE MATERIALS

MATERIALS

Slide 1-41

Worksheet 1-11

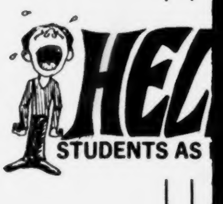

Date
Name
NORTH
TREASURE CHEST
ROCK
MARSH
VOLCANO
LAKE
SOUTH
YOU ARE HERE
SCS Worksheet 1-11

TEACHING STRATEGIES

Project Slide 1-41 to focus attention on the worksheet and say:

> PRETEND THAT YOU ARE ON AN ISLAND AND ARE STANDING HERE (point to black dot on screen). WITH A RULER AND YOUR PENCIL SEE IF YOU CAN FOLLOW MY DIRECTIONS TO GET TO THE OTHER SIDE OF THE ISLAND WHERE THE TREASURE IS (point to the treasure).
>
> STARTING FROM THE DOT DRAW A TWO-INCH LINE TO THE WEST.

Repeat this direction as you circulate around the room and assist students.


HEL
STUDENTS AS

Ask:

> SHOULD YOU DRAW THE LINE TO YOUR LEFT OR YOUR RIGHT?

Have students write in west along the margin at the left and east along the margin at the right of their worksheets.

When all students have drawn their first lines correctly, continue with the next direction:

> NOW TURN RIGHT AND GO THREE AND ONE-HALF INCHES NORTH.

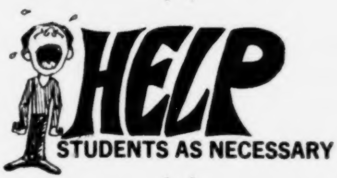
ACHING STRATEGIES

o focus attention on the worksheet and

U ARE ON AN ISLAND AND ARE
point to black dot on screen).
D YOUR PENCIL SEE IF YOU CAN
TIONS TO GET TO THE OTHER SIDE
HERE THE TREASURE IS (point to

HE DOT DRAW A TWO-INCH LINE

n as you circulate around the room



THE LINE TO YOUR LEFT OR

in west along the margin at the left
argin at the right of their worksheets.

ve drawn their first lines correctly,
xt direction:

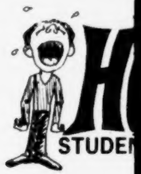
AND GO THREE AND ONE-HALF

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "To the left."

MATERIALS	TEACHING STRATEGIES



After each direction give students plenty of working and thinking time. Assist where needed. It is important for students to be successful at this!

**GIVE
TIME
TO
THIN**

Continue now with the following directions in the order listed. They should put students in the treasure area:

> NOW TURN RIGHT AND GO ONE AND ONE-HALF INCHES EAST. NOW TURN LEFT AND GO ONE AND ONE-HALF INCHES NORTH. NOW TURN LEFT AND GO TWO INCHES WEST. NOW TURN RIGHT AND GO TWO INCHES NORTH. NOW MAKE A RIGHT TURN AND GO INTO THE TREASURE CHEST.

Praise students for their ability to follow the directions. Have students who are successful help those that were not.

When students have identified their errors and are ready to tackle another set, have students repeat the procedure above with the directions given below:

1. Two inches north.
2. Turn right go two inches east.
3. Turn left go one and one-half inches north.
4. Turn left go one-half inch west.
5. Turn right go one and one-half inches north.
6. Turn right go one inch east.
7. Turn left go one and one-half inches north.
8. Turn left into the treasure chest.

TEACHING STRATEGIES

ANTICIPATED STUDENT BEHAVIORS

HELP
STUDENTS AS NECESSARY

tion give students plenty of working and
ssist where needed. It is important for
uccessful at this!

GIVE STUDENTS
TIME
TO
THINK

h the following directions in the order
ould put students in the treasure area:

GHT AND GO ONE AND ONE-HALF INCHES
URN LEFT AND GO ONE AND ONE-HALF
H. NOW TURN LEFT AND GO TWO INCHES
URN RIGHT AND GO TWO INCHES NORTH.
IGHT TURN AND GO INTO THE TREASURE

for their ability to follow the directions.
are successful help those that were not.

ve identified their errors and are ready
r set, have students repeat the procedure
irections given below:

north.
go two inches east.
o one and one-half inches north.
o one-half inch west.
go one and one-half inches north.
go one inch east.
go one and one-half inches north.
nto the treasure chest.

MATERIALS

TEACHING STRATEGIES

Again praise students for their work. Those who have been successful on the second try should now design a new set of directions to get from the starting point to the treasure. When they have created one, have students work in pairs and see if they can follow the other student's directions to the treasure chest. Those students who have not been successful should work with you in correcting their errors and getting assistance before they attempt to design their own directions.

Allow students to work on this task as long as interest remains high. You can challenge students who are very good at this task to design as many different paths as they can while other students develop the basic skill.

STRATEGIES

heir work. Those who have
ond try should now design a
et from the starting point to
ave created one, have students
ney can follow the other
e treasure chest. Those
successful should work with
rors and getting assistance
ign their own directions.

his task as long as interest
llenge students who are very
n as many different paths as
nts develop the basic skill.

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-23: "Establishing Environmental Landmarks"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

HIGH INTEREST → ________ ________ ________ ________

STRONG DISLIKE → ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise Slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

BSCS Evaluation: **EMH Feedback Form 1c**

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise Slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did taking magnets and compasses home create any problems?
☐ No ☐ Yes: Comment.

18. Did any students have difficulty completing Worksheet 1-11?
☐ No ☐ Yes
If students encountered problems with Worksheet 1-11, enclose a copy of the worksheet and explain the problem.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE C
ACTIVITY 1-23: "Establishing Environmental Landmarks"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

3. Create a greater interest in, and a more sensitive attitude toward, his environment.

4. Understand that his environment includes the whole Earth.

CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.

3. Appreciate the aesthetic and functional qualities of various habitats.

MATERIALS

TEACHING STRATEGIES

Activity 1-24. Landmarks And Habitats In My Environment

In this activity, the student will orient himself according to various landmarks in the community. He will locate his home on a map and recognize that this is also an environmental landmark as well as a part of his habitat. With the ability to identify and use landmarks, the student will develop more self-assurance in traveling around the community.

ACTIVITY

s immediate environment through
of sensory experiences and
ontacts.

reater interest in, and a more
attitude toward, his environment.

that his environment includes
Earth.

re that there are certain
tal landmarks and that these
to orient him to his environment.

the aesthetic and functional
of various habitats.

NG STRATEGIES

s And Habitats In My Environment

udent will orient himself
dmarks in the community. He will
and recognize that this is also
as well as a part of his
ty to identify and use landmarks,
more self-assurance in traveling

UNIT I. EXPLORING MY ENVIRONMENT

BSCS

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-24. LANDMARKS AND HABITATS IN MY ENVIRONMENT

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have written his name and address on the chalkboard.*
- *--have marked N, S, E, and W on his map.*
- *--have located true north and oriented his map with actual directions.*
- *--have located his home on his map.*
- *--have practiced using a map to find places in his environment.*
- *--have practiced giving directions to get to certain places in his environment.*

ACTIVITY 1-24

(186)

MATERIALS

*Map of the school and the surrounding area (1 per student)
*One map of the school area mounted on cardboard for a master copy
*Pins with small paper flags for identification of school and student homes on master map
*Felt pen
Compass (1 per student)

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

1. Mount one copy of the map on a piece of cardboard to serve as a master map.

2. Prepare the pins and flags by cutting out a narrow strip of paper, folding it over the pin and stapling it in place. Prepare enough of these so there is one for each student.

Begin by asking:

WHAT DOES ENVIRONMENT MEAN?

WHO REMEMBERS WHAT A LANDMARK IS?

WHO REMEMBERS WHAT A HABITAT IS?

Remind students of the meaning of habitat:

HABITAT IS THE PLACE WHERE A LIVING THING LIVES OR IS USUALLY FOUND.

Then say:

TODAY WE'RE GOING TO BE LOOKING AT SOME LANDMARKS AND HABITATS IN OUR ENVIRONMENT.

HOW MANY KINDS OF LIVING THINGS DO WE HAVE IN OUR CLASSROOM ENVIRONMENT?

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
:	
y of the map on a piece of cardboard master map.	
ins and flags by cutting out a narrow r, folding it over the pin and stapling Prepare enough of these so there is student.	
IRONMENT MEAN?	--recall definition learned earlier and respond, "Everything around us."
WHAT A LANDMARK IS?	--respond, "A building, mountain, or tree, or something else that will help us find places or directions."
WHAT A HABITAT IS?	--probably will have forgotten the meaning of this word.
the meaning of habitat:	
PLACE WHERE A LIVING THING UALLY FOUND.	
ING TO BE LOOKING AT SOME HABITATS IN OUR ENVIRONMENT.	
OF LIVING THINGS DO WE HAVE OM ENVIRONMENT?	--respond, "People, plants, pond and land animals."

MATERIALS

TEACHING STRATEGIES

WHAT IS THE (snail, fish, pet, etc.) HABITAT?

Then ask:

WHAT IS YOUR HABITAT, (student's name)?

IS YOUR HOME A PART OF YOUR HABITAT?

WRITE YOUR NAME AND THE ADDRESS OF YOUR HOME
ON THE CHALKBOARD.

Leave the names and addresses on the chalkboard and refer to them as necessary during the remainder of the activity. Put the address of the school on the chalkboard also.

Distribute a map of the school area to each student. Area maps may be obtained from one of the following sources:

Superintendent's or principal's office
School bus map
Local education association office
City planner's office
Fire department
Police department
Service stations
Chamber of Commerce
AAA

Say:

FIND THE PLACE ON YOUR MAP WHERE YOU ARE
RIGHT NOW.

A

Stu

--st
pl
ha

--re
"T

--re

--wr
ch

--po
ma

CHING STRATEGIES

il, fish, pet, etc.) HABITAT?

ITAT, (student's name)?

ART OF YOUR HABITAT?

AND THE ADDRESS OF YOUR HOME
D.

ddresses on the chalkboard and
ssary during the remainder of the
dress of the school on the chalkboard

he school area to each student.
ined from one of the following

s or principal's office

association office
ffice

t
s
rce

N YOUR MAP WHERE YOU ARE

ANTICIPATED STUDENT BEHAVIORS

Students:

--state the location or go to the appropriate place and identify the (snail, fish, pet) habitat.

--respond, "My home, my school, stores, etc.," "The places where I can be found."

--respond, "Yes."

--write their names and addresses on the chalkboard.

--point out the location of the school on their maps.

MATERIALS

TEACHING STRATEGIES

Assist the students if they have difficulty. Have students mark the school's location on their maps with a felt pen and place a pin in the master map with a flag labeled SCHOOL.

Now ask:

> WHO KNOWS WHICH WAY IS NORTH ON THE MAP?

Instruct the students to mark north on their maps with the magic marker by placing an N on the top of the map. Insure that each map is marked correctly. Mark N on the master map also.

Point out that all properly constructed maps are made with north at the top of the map. Then ask:

> IF NORTH IS AT THE TOP, WHERE WOULD YOU FIND SOUTH?
>
> NOW MARK SOUTH ON YOUR MAP.

Mark an S on the master map also. Then ask:

> WHICH SIDE OF YOUR MAP IS EAST?

Have students mark E on their maps. Mark an E on the master map also.

> WHICH SIDE IS WEST?

Have students mark W on their maps. Mark W on the master map also.

(Weather permitting) Take the students outside with their maps. Instruct the students to use their compasses to determine which way is north. Then have them orient their maps so that north on their maps is actually pointing north.

G STRATEGIES

ey have difficulty. Have
s location on their maps with a
n the master map with a flag

IS NORTH ON THE MAP?

mark north on their maps with
ng an N on the top of the map.
arked correctly. Mark N on the

ly constructed maps are made with
ap. Then ask:

OP, WHERE WOULD YOU

UR MAP.

ap also. Then ask:

AP IS EAST?

heir maps. Mark an E on the

heir maps. Mark W on the master

e the students outside with their
nts to use their compasses to
rth. Then have them orient their
ir maps is actually pointing

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "On the top," "This way."

--indicate that south is at the bottom of the map.

--mark S on their maps.

--respond that the right side of the map is east.

--indicate that the left-hand side of the map is west.

MATERIALS	TEACHING STRATEGIES

MATERIALS

TEACHING STRATEGIES

(Student's name), WHAT DIRECTION DO YOU GO FROM THE SCHOOL TO GET HOME?

If the student has difficulty, point to the directions marked on his or the master map and ask him what direction he would have to walk to get home.

HAVE YO
INVOLVED
ALL
STUDENTS

Now ask each student to find the location of his home on the map. Assist students as necessary. When a student has properly identified the location of his home on the map, instruct him to place a pin (flag with his name) on the master map. Continue until there is a pin on the master map at the location of each student's home.

Then say:

WHAT DO THESE PINS ON THE MAP SHOW US?

When students have completed finding the places, continue by saying:

SEE IF YOU CAN FOLLOW MY DIRECTIONS. START AT SCHOOL, FOLLOW MY DIRECTIONS, AND SEE IF YOU END UP AT THE PLACE I HAVE IN MIND.

Pick a place known to students and give them very simple directions (use blocks as units) to get to some place. Use N, S, E, W, and left-right in your directions. Directions might be as follows:

GO NORTH 5 BLOCKS ON FIFTH AND TURN LEFT ONTO FOX ROAD. TRAVEL ON FOX ROAD FOR

A

Stu

--u
w

--r
"

HING STRATEGIES

WHAT DIRECTION DO YOU GO FROM
HOME?

ficulty, point to the directions
aster map and ask him what direction
to get home.

HAVE YOU INVOLVED ALL STUDENTS?

o find the location of his home on
nts as necessary. When a student
d the location of his home on the
lace a pin (flag with his name) on
nue until there is a pin on the
tion of each student's home.

S ON THE MAP SHOW US?

pleted finding the places,

LLOW MY DIRECTIONS. START
MY DIRECTIONS, AND SEE IF
PLACE I HAVE IN MIND.

students and give them very simple
as units) to get to some place.
ft-right in your directions.
follows:

ON FIFTH AND TURN LEFT
RAVEL ON FOX ROAD FOR

ANTICIPATED STUDENT BEHAVIORS

Students:

--using his compass, point to the direction in which his home is located.

--respond, "Home," "Where I live," "My habitat," "Where we all live."

MATERIALS

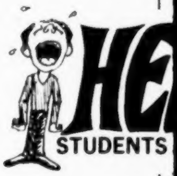
TEACHING STRATEGIES

7 BLOCKS AND THEN TURN RIGHT AND TRAVEL NORTH ON EIGHTH STREET FOR 10 BLOCKS. WHAT PLACE HAVE I TAKEN YOU TO?

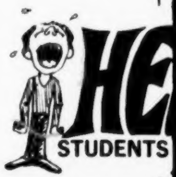
IS ALL OF THIS AREA (point to master map) A PART OF YOUR HABITAT?

ARE OUR HOUSES LANDMARKS?

Now give students a list of places that are well known in your community. Write them on the chalkboard and allow students time to examine their maps carefully and find the location of each place on their map. Give them a large list as they will enjoy finding the places. Give them places such as: the arena, the city hall, museum, zoo, etc. as well as places such as 5th and Sherman Boulevard.



After completing this task students might take turns directing the class to places of unknown destiny. Give students time to formulate their directions and kindly offer suggestions if their directions are not clear. Continue this kind of travel game as long as interest warrants.



INVOLV
SLOW
STUD

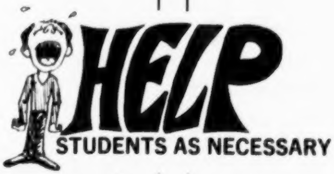
CHING STRATEGIES

N TURN RIGHT AND TRAVEL
STREET FOR 10 BLOCKS.
I TAKEN YOU TO?

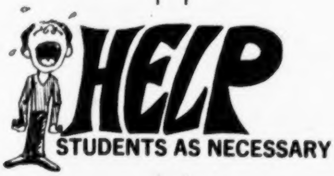
REA (point to master map)
ABITAT?

ANDMARKS?

ist of places that are well known
rite them on the chalkboard and
o examine their maps carefully and
each place on their map. Give
they will enjoy finding the places.
as: the arena, the city hall,
well as places such as 5th and



task students might take turns
o places of unknown destiny. Give
ulate their directions and kindly
their directions are not clear.
travel game as long as interest



INVOLVE YOUR
SLOWEST
STUDENTS

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes."

--respond, "Yes."

ACTIVITY 1-24: "Landmarks And Habitats In My Environment"

Activity name suggested by class:

BSCS USE: Teacher Post ___ Tally ___ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)
HIGH INTEREST	→ ________ ________ ________ ________
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	→ ________ ________ ________ ________
HARD TO RATE	

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
    ☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
    What parts of this activity should be retained when the curriculum is revised?
    Page(s) ____________________:

17. Did students have difficulty locating their home on the map?
    ☐ None ☐ 1/4 ☐ 1/2 ☐ 3/4 ☐ All: Comment.

18. Please send a copy of the map you used in this activity to BSCS with this form.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

BSCS Evaluation: **EMH Feedback Form 1c**

ACTIVITY 1-24: "Landmarks And Habitats In My Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. **Whenever practical write all over your second copy of the Guide.** Tear out the **activity and send the annotated Guide in with this form.**
2. Make **specific** suggestions - exactly what you think should appear in the Guide.
3. **Tell us what you did.** Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.
☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

MATERIALS

TEACHING STRATEGIES

Activity 1-25. Homes And Habitats In My World

In the previous activity students identified their homes as a part of their habitat. Now they will compare their homes and surroundings with other home habitats around the world.

IIS ACTIVITY

ze the environmental components
al for all living things.

a greater interest in, and a more
ve attitude toward, his environment.

and that his environment includes
le Earth.

S:

ware that there are certain
mental landmarks and that these
ve to orient him to his environment.

a variety of habitats.

ate the aesthetic and functional
es of various habitats.

te the Earth with a finite
ip.

HING STRATEGIES

And Habitats In My World

ity students identified their homes bitat. Now they will compare their s with other home habitats around

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-25. HOMES AND HABITATS IN MY WORLD

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have viewed the sequence of slides showing a variety of homes and habitats in different parts of the world.
--have identified some likenesses and differences in various habitats and compared them with his own.
--have made speculations about how the environment affects people's choices of structure and design in their homes.
--have concluded that certain environmental components are common to all habitats of people.

ACTIVITY 1-25

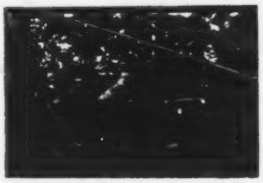
(192)

MATERIALS

Slides 1-42 through 1-56
*World map
*35mm Slide projector

Slide 1-42

Slide 1-43



Slide 1-44

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Set up the slide projector and screen before class begins. Have the sequence of slides and the world map ready for use.

Begin by saying:

> HOW MANY OF YOU HAVE EVER TAKEN A TRIP IN A JET AIRPLANE?
>
> WHERE DID YOU GO?
>
> TODAY WE ARE GOING TO TAKE A TRIP ON A JET TO SEE WHAT DIFFERENT PLACES ARE LIKE. BEFORE WE GO ON THE TRIP, LET'S LOOK AT A MAP OF THE WORLD TO FIND THE PLACES WE ARE GOING TO VISIT.

The slide locations are outlined below:

1-42. Alaskan coastal village.
1-43. Japanese home.
1-44. Farm -- many possible locations.
1-45. Pueblo -- New Mexico
1-46. Small house -- many possible locations.
1-47. Modern apartments -- many possible locations.
1-48. Trailer court -- many possible locations.
1-49. Rural home -- many possible locations.
1-50. Rural Chinese farm.
1-51. New York skyline.
1-52. Thailand canal house.
1-53. Suburban -- many possible locations.
1-54. Chalet in Swiss Alps.
1-55. Navajo hogan -- Arizona.
1-56. Plantation -- Eastern Asia.

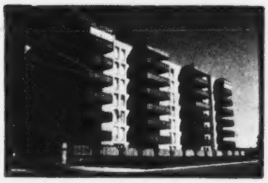
EACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ion:	
projector and screen before class begins. e of slides and the world map ready for	
YOU HAVE EVER TAKEN A TRIP IN A JET	--respond by raising hands.
OU GO?	--indicate various places.
E GOING TO TAKE A TRIP ON A JET TO FFERENT PLACES ARE LIKE. BEFORE WE RIP, LET'S LOOK AT A MAP OF THE ND THE PLACES WE ARE GOING TO VISIT.	
ons are outlined below:	
kan coastal village.	
nese home.	
-- many possible locations.	
lo -- New Mexico	
l house -- many possible locations.	
rn apartments -- many possible locations.	
ler court -- many possible locations.	
l home -- many possible locations.	
l Chinese farm.	
York skyline.	
land canal house.	
rban -- many possible locations.	
et in Swiss Alps.	
jo hogan -- Arizona.	
tation -- Eastern Asia.	

MATERIALS

Slide 1-45

Slide 1-46

Slide 1-47



Slide 1-48

TEACHING STRATEGIES

Now focus the students' attention on the world map and point to the locations they will visit on their "slide trip" to various parts of the world.

Project the sequence of slides. After each slide ask:

> WHAT IS THIS A PICTURE OF?
>
> DOES SOMEONE LIVE HERE?
>
> HOW IS THIS HABITAT LIKE YOUR OWN? HOW IS IT DIFFERENT?

After Slide 1-43 has been shown, ask also:

> HOW DOES THIS PICTURE DIFFER FROM THE FIRST ONE?

Ask other questions when appropriate such as:

> WHY DO YOU SUPPOSE THIS ROOF IS VERY STEEP?
> WHY DO YOU SUPPOSE THIS ROOF IS VERY FLAT?
>
> WHY DO YOU SUPPOSE THIS HOUSE HAS VERY FEW WINDOWS?
>
> WHY DO YOU SUPPOSE THIS HOUSE IS SO OPEN?
>
> WHAT MATERIALS WERE USED TO BUILD THIS HOUSE?

A

Stud

--id
ha

--re

--co
an

--co
sl

--id
ex
wi

--id
ex

--id
ex

--id

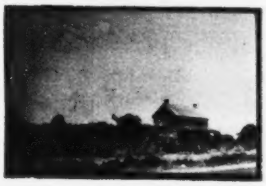
CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
nts' attention on the world map and ons they will visit on their "slide rts of the world.	
e of slides. After each slide ask:	
PICTURE OF?	--identify the projected picture as the home habitat of someone.
IVE HERE?	--respond, "Yes."
BITAT LIKE YOUR OWN? HOW IS	--compare the projected habitat with their own and state similarities and differences.
s been shown, ask also:	
ICTURE DIFFER FROM THE FIRST	--compare environments and habitats within the slide sequence.
when appropriate such as:	
POSE THIS ROOF IS VERY STEEP? POSE THIS ROOF IS VERY FLAT?	--identify environmental components that might explain a flat or steep roof, such as snow or wind.
POSE THIS HOUSE HAS VERY FEW	--identify environmental components that might explain a home with a few windows, such as wind.
POSE THIS HOUSE IS SO OPEN?	--identify environmental components that might explain an open house, such as temperature.
WERE USED TO BUILD THIS HOUSE?	--identify building materials.

ACTIVITY 1-25

(194)

MATERIALS

Slide 1-49



Slide 1-50

Slide 1-51

Slide 1-52

TEACHING STRATEGIES

WHY DO YOU SUPPOSE THAT KIND WAS USED?

After the last slide ask also:

WHICH OF THESE HABITATS AND ENVIRONMENTS WOULD YOU PREFER TO LIVE IN? WHY?

IN WHAT WAY ARE ALL THESE HABITATS ALIKE?

Bulletin board suggestions:

Bring in pictures of habitats cut from magazines or taken in your own travels. Entitle it "Habitats" and encourage students to determine and discuss environmental components in each picture.

Slide 1-53

Slide 1-54

TEACHING STRATEGIES

OU SUPPOSE THAT KIND WAS USED?

t slide ask also:

THESE HABITATS AND ENVIRONMENTS
U PREFER TO LIVE IN? WHY?

WAY ARE ALL THESE HABITATS ALIKE?

d suggestions:

ures of habitats cut from magazines or taken
ravels. Entitle it "Habitats" and encourage
etermine and discuss environmental components
re.

de 1-53

Slide 1-54

ANTICIPATED STUDENT BEHAVIORS

Students:

--make varied speculations according to the question asked, such as, "Steep roofs shed heavy snow and rain," "Flat roofs are for warmer weather, drier climate," "Choice of material is due to availability and climate conditions," "Many or few windows are due to weather, location, crowded conditions, and availability of space."

--recall the slide scenes and discuss which habitats and environments they would prefer to live in and state their reasons why.

--conclude that there are environmental components common to all habitats, such as land, air, sun, water, shelter, and food.

Slide 1-55

Slide 1-56

ACTIVITY 1-25: "Landmarks And Habitats In My World"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with:

Name students you noted especially:

	(Number)
HIGH INTEREST	
MODERATE INTEREST	
INDIFFERENCE	
MODERATE RESISTANCE	
STRONG DISLIKE	
HARD TO RATE	

HIGH INTEREST → ________ ________ ________ ________

STRONG DISLIKE → ________ ________ ________ ________

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	Worksheet #	Worksheet #	Game #	Slides (show slide nos.)	Transparency #	Transparency #	Transparency #	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

BSCS Evaluation: EMH Feedback Form 1c

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed. What parts of this activity should be retained when the curriculum is revised?

Page(s) ____________________:

17. Did pupils ask questions about any scenes in the slides?

☐ No ☐ Yes

If yes, identify the scene and tell what kind of questions were asked.

18. What was the interest level of most pupils while taking the "slide trip"?

Low Medium High (Circle one.)

19. How many pupils concluded that land, air, water, shelter, and food are common to all habitats?

☐ None ☐ Some ☐ Most: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

ACTIVITY 1-25: "Landmarks And Habitats In My World"

Activity name suggested by class:

BSCS USE:	Teacher Post ____	Tally ____	Rev ____

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

Materials used:	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did pupils ask questions about any scenes in the slides?
☐ No ☐ Yes
If yes, identify the scene and tell what kind of questions were asked.

18. What was the interest level of most pupils while taking the "slide trip"?
Low Medium High (Circle one.)

19. How many pupils concluded that land, air, water, shelter, and food are common to all habitats?
☐ None ☐ Some ☐ Most: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

BSCS Evaluation: **EMH Feedback Form 1c**

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.

3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE C OBJECTIVES:

2. Examine a variety of habitats.

3. Appreciate the aesthetic and functional qualities of various habitats.

MATERIALS

*Styrofoam coffee cups (recycled) Collect in advance from your teacher lounge, local restaurant, home, or any other place you can find them.

(Continued on next page)

*Not furnished in materials kit

TEACHING STRATEGIES

Activity 1-26. A Recycled Spaceship

The students have already taken an imaginary jet trip to various parts of the world, and now they are going to take an imaginary flight to outer space by way of a spaceship. Before they leave on their long journey, they must first design their own spaceship. Because they will construct this spaceship from recycled materials, they will also be introduced to the term recycle and what it means.

Teacher Preparation:

Prior to this activity, collect the materials listed in the materials column and have them on hand for the construction of the recycled spaceships. Make sure all of the materials (except the tape and glue, of course) have been used previously for some other purpose. Have the materials in bags or boxes out of the students' sight, and have a table ready to place the materials on.

CUS FOR THIS ACTIVITY

ALS:

Explore his immediate environment through a variety of sensory experiences and physical contacts.

Create a greater interest in, and a more sensitive attitude toward, his environment.

BJECTIVES:

Examine a variety of habitats.

Appreciate the aesthetic and functional qualities of various habitats.

TEACHING STRATEGIES

6. A Recycled Spaceship

have already taken an imaginary jet trip to
s of the world, and now they are going to take
flight to outer space by way of a spaceship.
eave on their long journey, they must first
own spaceship. Because they will construct
ip from recycled materials, they will also be
o the term recycle and what it means.

aration:

s activity, collect the materials listed in
s column and have them on hand for the
of the recycled spaceships. Make sure all
ials (except the tape and glue, of course)
ed previously for some other purpose. Have
s in bags or boxes out of the students' sight,
able ready to place the materials on.

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-26. A RECYCLED SPACESHIP

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

- *--have constructed a model.*
- *--have located a place on the globe.*
- *--have learned that to recycle is to reuse.*
- *--have taken a picture of his model spaceship.*

ACTIVITY 1-26

MATERIALS

*Any other materials that might be collected to use in making their spaceships:

- scraps of wood
- construction paper
- paper tubes
- plastic bottles
- tin cans
- used wire
- used string, etc.

*Cellophane tape or white glue
*Scissors
*Globe
Camera (Polaroid Square Shooter)

*Not furnished in materials kit

TEACHING STRATEGIES

Begin by saying:

> WE HAVE SEEN MANY HABITATS AROUND THE WORLD
> (Point to the globe.)
>
> ARE THERE PLACES THAT WE MIGHT VISIT THAT ARE NOT SHOWN ON THE GLOBE?
>
> IF WE GO TO THE MOON OR TO OTHER PLANETS, WE WILL NEED A SPACESHIP TO TRAVEL IN. SINCE WE DON'T HAVE ENOUGH MONEY TO BUY ONE WE WILL HAV TO MAKE OUR OWN SPACESHIP. DOES ANYONE KNOW HOW TO BUILD A SPACESHIP?

If the students are enthusiastic about how to build spaceship, encourage their discussion. Then say:

> WE ALL KNOW THAT IT WOULD BE IMPOSSIBLE TO BUILD A REAL SPACESHIP HERE IN THE CLASSROOM BECAUSE WE DON'T HAVE THE MONEY OR THE MATERIA NECESSARY TO BUILD ONE THAT ACTUALLY FLIES. BUT IF WE DID I AM SURE EACH OF YOU WOULD HAVE SOME GOOD IDEAS ABOUT HOW TO CONSTRUCT ONE. LET'S DO THE NEXT BEST THING AND BUILD A MODEL SPACESHIP INSTEAD.

Spread out on a centrally located table the various materials you have collected for the spaceship construction.

Say:

> THESE ARE THE MATERIALS WITH WHICH YOU CAN BUILD A SPACESHIP. YOUR SPACESHIP WILL BE

TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
MANY HABITATS AROUND THE WORLD e globe.)	
LACES THAT WE MIGHT VISIT THAT ARE THE GLOBE?	--suggest places in outer space (Moon, planets), under the sea, etc.
THE MOON OR TO OTHER PLANETS, WE SPACESHIP TO TRAVEL IN. SINCE WE NOUGH MONEY TO BUY ONE WE WILL HAVE OWN SPACESHIP. DOES ANYONE KNOW A SPACESHIP?	--respond, "I do, I do," "You need a big rocket," "Yeah, I could do it," "I could build the outside," etc.
re enthusiastic about how to build a age their discussion. Then say:	
THAT IT WOULD BE IMPOSSIBLE TO SPACESHIP HERE IN THE CLASSROOM ON'T HAVE THE MONEY OR THE MATERIALS BUILD ONE THAT ACTUALLY FLIES. D I AM SURE EACH OF YOU WOULD HAVE DEAS ABOUT HOW TO CONSTRUCT ONE. E NEXT BEST THING AND BUILD A MODEL STEAD.	
entrally located table the various ve collected for the spaceship	
E MATERIALS WITH WHICH YOU CAN ESHIP. YOUR SPACESHIP WILL BE	

MATERIALS	TEACHING STRATEGIES
	A SPECIAL KIND -- IT WILL BE A RECYCLED SPACESHIP. Write the phrase "recycled spaceship" on the chalkboard. DOES ANYONE KNOW WHAT "RECYCLED" MEANS? Since the term recycle is widely used today in newspapers, magazines, advertisements, and TV, some students in the class may know the meaning. If not, again direct their attention to the materials on the table and say: WHAT IS IT ABOUT THESE THINGS THAT IS ALIKE? There are a number of logical ways the materials could be compared, such as color, shape, hard or soft, etc. Praise all logical comparisons, but if no one suggests that all the materials are secondhand, say: YOU HAVE MENTIONED SEVERAL WAYS IN WHICH THESE MATERIALS ARE ALIKE. ONE THING YOU MAY NOT HAVE NOTICED, HOWEVER, IS THAT ALL OF THESE THINGS HAVE ALREADY BEEN USED BEFORE. BY USING THEM AGAIN WE WILL BE RECYCLING THEM OR REUSING THEM. HOW HAVE THE CUPS BEEN USED BEFORE? Ask the same question about one or more of the other materials until the students realize that all the materials have been used before for one reason or another.

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
-- IT WILL BE A RECYCLED	
ecycled spaceship" on the chalkboard.	
OW WHAT "RECYCLED" MEANS?	--respond, "You're taking it back to the store," "We don't throw it away," "You use something over again," "Taking pop bottles back," etc.
cle is widely used today in news- dvertisements, and TV, some students ow the meaning. If not, again direct the materials on the table and say:	
UT THESE THINGS THAT IS ALIKE?	--describe various ways in which the materials are similar.
f logical ways the materials could s color, shape, hard or soft, etc. omparisons, but if no one suggests als are secondhand, say:	
ONED SEVERAL WAYS IN WHICH THESE LIKE. ONE THING YOU MAY NOT OWEVER, IS THAT ALL OF THESE READY BEEN USED BEFORE. BY IN WE WILL BE RECYCLING THEM M.	
UPS BEEN USED BEFORE?	--respond, "Someone drank out of them," "They've had coffee in them," etc.
on about one or more of the other students realize that all the used before for one reason or	

ACTIVITY 1-26

MATERIALS	TEACHING STRATEGIES

WHAT THINGS DOES YOUR MOTHER RECYCLE AT HOME?

WHY IS IT GOOD TO RECYCLE MATERIALS?

YOU MAY USE THESE MATERIALS IN ANY WAY YOU WANT TO MAKE A RECYCLED SPACESHIP. SEE IF YOU CAN MAKE ONE DIFFERENT FROM ANY OTHER IN CLASS.

WHAT WILL YOU NEED TO DO BEFORE YOU BEGIN?

To insure creative student models, you should not give any further directions. Encourage the students to work individually. If any student's model is "really wild," encourage him to continue; quickly point out that spaceships of the future could take on many different forms. Do not criticize or suggest changes in any model.

When the spaceships are completed, say:

WHEN WE TOOK OUR JET TRIP AROUND THE WORLD, WE FOUND THAT PEOPLE LIVED IN MANY DIFFERENT KINDS OF HOMES.

IN WHAT WAYS WERE ALL OF THESE HOMES ALIKE?

IN WHAT WAY IS A SPACESHIP LIKE ONE OF THESE HOMES?

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
ES YOUR MOTHER RECYCLE AT HOME?	--recall various items such as plastic bags, shopping bags, and containers.
TO RECYCLE MATERIALS?	--respond, "It saves money," "Don't waste as much."
ESE MATERIALS IN ANY WAY YOU WANT CLED SPACESHIP. SEE IF YOU CAN RENT FROM ANY OTHER IN CLASS.	
EED TO DO BEFORE YOU BEGIN?	--respond, "Think of what we want our spaceships to look like," "Think of what things we want to use."
tudent models, you should not give any Encourage the students to work ny student's model is "really wild," ntinue; quickly point out that space- could take on many different forms. suggest changes in any model.	--construct a model of a spaceship.
are completed, say: UR JET TRIP AROUND THE WORLD, EOPLE LIVED IN MANY DIFFERENT .	
ERE ALL OF THESE HOMES ALIKE?	--respond, "They all provided shelter, protection, a place to call our own," "A place to keep our things," "A place to live."
A SPACESHIP LIKE ONE OF THESE	--respond, "It provides a place for the astronaut to live while he's out in space."

MATERIALS

TEACHING STRATEGIES

The next question sets the stage for the following activity.

> SUPPOSE YOU FIRED UP YOUR MODEL SPACESHIP AND FLEW TO OUTER SPACE, WHAT DO YOU THINK THE EARTH WOULD LOOK LIKE?

Save the student models from this activity to be used as a class or school display throughout the duration of this core.

Have each student take a picture of his spaceship. You might suggest composing a scene for his picture, i.e., a background for his spaceship. Ask if they want anything special in their picture.

As each picture is taken, fill out Tallysheet 1-5. If a student has to have help with the camera, be sure to note this fact and tell what the problem was. If he has to take more than one shot, report this also. Indicate any other things that will give us clues on the students' ability to do this task.

NG STRATEGIES

ne stage for the following

YOUR MODEL SPACESHIP AND
, WHAT DO YOU THINK THE
KE?

from this activity to be used
play throughout the duration of

CAMERA TIME

picture of his spaceship. You
scene for his picture, i.e.,
ceship. Ask if they want
r picture.

, fill out Tallysheet 1-5. If
lp with the camera, be sure to
what the problem was. If he has
ot, report this also. Indicate
ll give us clues on the students'

ANTICIPATED STUDENT BEHAVIORS

Students:

--speculate on Earth's appearance from a spaceship.

Teacher ______________________

Date ______________________

UNIT I, CORE C

TALLYSHEET 1-5: Rating of Ability to Use Polaroid Camera
ACTIVITY 1-26: "Recycled Spaceship"

Rate the ability of each student to use the Polaroid camera and rate the picture taken using the criteria below.

Column 1 (Taking the Picture). Circle OK if student was able to use the camera on his own. If student needed assistance, indicate in HELP NEEDED column what was needed (e.g., focus, light, pulling tabs, timing).

Column 2 (Tries Made). Indicate whether the student obtained a good picture on his first try by circling 1, or circle the number of tries made before obtaining a good picture. If no picture, see column 3.

Column 3 (Good Picture or Problem). See back of tallysheet.

		1 (Taking Picture)		2 (Tries Made)					
		OK	HELP NEEDED						
Attach ID list here.	01	OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK	______	1	2	3	4	5	6
		OK		1	2	3	4	5	6

no picture, see column 3.

Column 3 (Good Picture or Problem). See back of tallysheet.

		1 (Taking Picture)		2 (Tries Made)					
		OK	HELP NEEDED						
Attach ID list here.	01	OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6
		OK	________	1	2	3	4	5	6

TALLYSHEET 1-5: Rating of Ability to Use Polaroid Camera

Column 3 (Good Picture or Problem). Rate the student's final snapshot by checking OK or one or more problems the photograph reveals (focus, light, aim, jiggling, timing, other). If the child produced no picture, indicate why.

		3 (Good Picture or Problem)							
Attach ID list here.	01	OK	Focus	Light	Aim	Jiggling	Timing	Other	No Pictures (Why?)

ACTIVITY 1-26: "A Recycled Spaceship"

Activity name suggested by class:

Teacher

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile ☐ Of value--needs the ☐ Worth salvaging--make ☐ Worthless

Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did all students create a spaceship model?
☐ Yes ☐ No
If not, who and why not?

18. Did any student have difficulty constructing his spaceship?
☐ No ☐ Yes: Who? Explain.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

BSCS Evaluation: **EMH Feedback Form 1c**

UNIT I, CORE C
ACTIVITY 1-26: "A Recycled Spaceship"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE C OBJECTIVES:

2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

MATERIALS

TEACHING STRATEGIES

Activity 1-27. To The Moon In Our Room

In this activity students will build a large space capsule, plan a simulated space flight, and carry out the flight simulation. In doing so, the student will make a special habitat for man which will require him to identify vital life needs. To make this activity a success, be flexible; use student errors and expressed feelings as opportunities to further their learning experience by questioning and reinforcing.

OR THIS ACTIVITY

ognize the environmental components
ential for all living things.

ate a greater interest in, and a more
sitive attitude toward, his environment.

TIVES:

mine a variety of habitats.

reciate the aesthetic and functional
lities of various habitats.

ociate the Earth with a finite spaceship.

TEACHING STRATEGIES

o The Moon In Our Room

tudents will build a large space cap-
lated space flight, and carry out the
. In doing so, the student will make a
r man which will require him to identify
. To make this activity a success, be
dent errors and expressed feelings as
urther their learning experience by
einforcing.

UNIT I. EXPLORING MY ENVIRONMENT

BSCS

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-27. TO THE MOON IN OUR ROOM

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have participated in pre- and postflight discussions (briefing and debriefing).
--have participated in a discussion of the slides.
--have identified life needs common to all living things.

ACTIVITY 1-27

202

MATERIALS

*Large box with cover (may be obtained from a furniture store, appliance store, factory shipping room, grocery store, etc.
*Paint, brushes, crayons, construction paper, glue, scissors (to decorate capsule)
*Heavy duty scissors or tinsnips (to cut cardboard)
Slides 1-57 through 1-64
*35mm Slide projector

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Obtain a large furniture or appliance box with a cover, and arrange to have it delivered or transported to your classroom so that it will be available in time for this activity.

NOTE: This activity is written to simulate a space flight. However, if classroom area and interest warrant, students may set up a similar capsule for aquanauts (deep sea explorers), for exploring very deep caves or mines, for research in polar regions, or perhaps a research station on a very high mountain like Mt. McKinley (above 20,000 feet). These are all extreme conditions in which man must make special provisions to take care of vital life needs.

If more than one capsule is used, students could work in teams to help their astronaut plan his trip. Teams might interview each other to see what improvements could be made for their own flight, or to determine which spaceman could remain longer in the space capsule.

Begin by saying:

> EARLIER WE LOCATED OUR HABITAT ON A MAP. THEN THROUGH SLIDES, WE TOOK A JET TRIP AROUND THE WORLD TO SEE MANY DIFFERENT HABITATS.
>
> NOW WE'RE GOING TO TAKE AN IMAGINARY TRIP TO THE MOON. TO DO THIS WE NEED TO BUILD A SPECIAL HABITAT FOR OUR ASTRONAUT TO LIVE IN WHILE HE'S TRAVELING.

TEACHING STRATEGIES

ion:

ırniture or appliance box with a cover,
ave it delivered or transported to your
: it will be available in time for this

rity is written to simulate a space flight.
If classroom area and interest warrant,
nay set up a similar capsule for aquanauts
explorers), for exploring very deep caves
for research in polar regions, or perhaps
n station on a very high mountain like
ley (above 20,000 feet). These are all
onditions in which man must make special
s to take care of vital life needs.

nan one capsule is used, students could
eams to help their astronaut plan his trip.
nt interview each other to see what
nts could be made for their own flight, or
ine which spaceman could remain longer in
capsule.

LOCATED OUR HABITAT ON A MAP. THEN
IDES, WE TOOK A JET TRIP AROUND THE
EE MANY DIFFERENT HABITATS.

GOING TO TAKE AN IMAGINARY TRIP TO
TO DO THIS WE NEED TO BUILD A
BITAT FOR OUR ASTRONAUT TO LIVE IN
TRAVELING.

ANTICIPATED STUDENT BEHAVIORS

MATERIALS

TEACHING STRATEGIES

Do not give them any clues (such as water, toilet trips, etc.). If they have forgotten any important aspects, (student's name) will point them out the next day and they can be incorporated in future flights.

When the planning discussion is finished and before you allow the students to begin preparing and decorating the box, say:

> THE BOX WE ARE USING IS FROM A (furniture store, grocery store, etc.). IT HAS ALREADY BEEN USED. WHAT KIND OF SPACE CAPSULE WILL WE BE MAKING?
>
> WHY WILL IT BE A RECYCLED SPACE CAPSULE?

For the rest of the science period (and any other time that is needed) allow the students to decorate and prepare the capsule. They might want to paint it, cut windows, cut a hatch, put a nose cone on it, etc.

BE C

ING STRATEGIES

DON'T ASK LEADING QUESTIONS

ues (such as water, toilet trips,
rgotten any important aspects,
oint them out the next day and
d in future flights.

ssion is finished and before you
egin preparing and decorating the

NG IS FROM A (furniture store,
.). IT HAS ALREADY BEEN USED.
CAPSULE WILL WE BE MAKING?

ECYCLED SPACE CAPSULE?

ence period (and any other time
he students to decorate and prepare
t want to paint it, cut windows,
cone on it, etc.

WORK TIME

BE CREATIVE

ANTICIPATED STUDENT BEHAVIORS

Students:

--recall the previous activity and respond, "A recycled capsule."

--infer that since the box has already been used for shipping, they will be reusing or recycling the box.

MATERIALS

TEACHING STRATEGIES

> WE ARE GOING TO CONDUCT SEVERAL SPACE FLIGHTS. WHO WOULD LIKE TO BE THE ASTRONAUT FOR OUR FIRST FLIGHT?

Choose one of the volunteers for the first (unsuccessful) flight. Pick someone that you think will be emotionally stable in this situation. Bring out or point to the large box.

Say:

> THIS BOX IS GOING TO BE OUR SPACE CAPSULE. (Student's name), IS GOING TO BE OUR ASTRONAUT. HE IS GOING ON A ONE-DAY SPACE FLIGHT TOMORROW. WE ARE GOING TO PUT HIM IN THE SPACE CAPSULE (box) AT THE BEGINNING OF SCHOOL TOMORROW, BLAST HIM OFF, AND LET HIM RETURN FROM SPACE BEFORE SCHOOL IS OUT. A GREAT DEAL OF PLANNING MUST GO INTO A SPACE FLIGHT SINCE ONCE YOU LEAVE EARTH, YOU CANNOT COME BACK TO GET SOMETHING YOU FORGOT.
>
> (Student's name), SINCE YOU ARE THE ONE WHO WILL SPEND TOMORROW IN THE CAPSULE, WILL YOU LEAD A DISCUSSION TO DECIDE WHAT SUPPLIES YOU WILL NEED FOR THE TRIP AND HOW THE SPACESHIP SHOULD BE DESIGNED?

Guide the astronaut and the rest of the class in preparing a list of what to bring along and in deciding what the ship should look like.

GIVE S
TIME
TO
THINK

G STRATEGIES

UCT SEVERAL SPACE FLIGHTS.
THE ASTRONAUT FOR OUR

ers for the first (unsuccessful)
t you think will be emotionally
Bring out or point to the

BE OUR SPACE CAPSULE.
GOING TO BE OUR ASTRONAUT.
-DAY SPACE FLIGHT TOMORROW.
HIM IN THE SPACE CAPSULE
NG OF SCHOOL TOMORROW,
ET HIM RETURN FROM SPACE
. A GREAT DEAL OF PLANNING
FLIGHT SINCE ONCE YOU
NOT COME BACK TO GET
.

NCE YOU ARE THE ONE WHO
IN THE CAPSULE, WILL YOU
DECIDE WHAT SUPPLIES YOU
IP AND HOW THE SPACESHIP

he rest of the class in preparing
long and in deciding what the

GIVE STUDENTS TIME TO THINK

ANTICIPATED STUDENT BEHAVIORS

Students:

--volunteer to be the first astronaut.

MATERIALS

TEACHING STRATEGIES

The next day put (student's name) in the box with all the supplies and provisions planned. Simulate a blast off and then go about class activities as usual, ignoring (student's name) on his flight. It is unlikely that the first flight will last all day! When (student's name) wants out of the box, let him out. Capitalize on his reactions by holding a debriefing session or an interviewing session (perhaps even with a tape recorder) with students asking questions like:

WHAT WAS IT LIKE IN THE CAPSULE?

WHAT DID YOU SEE?

COULD YOU SUGGEST ANYTHING THAT COULD BE CHANGED FOR THE NEXT FLIGHT?

Drawing from the experiences of the first astronaut, plan another flight incorporating the new supply or design suggestions. Continue to have space flights on successive days until many of the following needs have become apparent to the students.

1. It's not comfortable in the box because it is too small.
2. Food and water are necessary for survival.
3. A window helps overcome the feeling of claustrophobia.
4. A way of communicating to people on the earth is helpful. (Set up a formal means to communicate -- tin cans on wire, tape recordings, walkie-talkies, etc.).
5. Having company in the box (two astronauts) helps to alleviate loneliness.
6. Light is necessary in order to see inside the capsule.
7. Air is necessary in order to breathe.

AN

Stud

--que
whi

NG STRATEGIES

t's name) in the box with all the
planned. Simulate a blast off and
vities as usual, ignoring (stu-
nt. It is unlikely that the
ll day! When (student's name)
t him out. Capitalize on his
ebriefing session or an inter-
even with a tape recorder) with
s like:

THE CAPSULE?

NYTHING THAT COULD BE
T FLIGHT?

nces of the first astronaut, plan
ting the new supply or design
o have space flights on succes-
the following needs have become
.

le in the box because it is

necessary for survival.
rcome the feeling of claustro-

ting to people on the earth is
a formal means to communicate --
tape recordings, walkie-talkies,

the box (two astronauts) helps
iness.
in order to see inside the

n order to breathe.

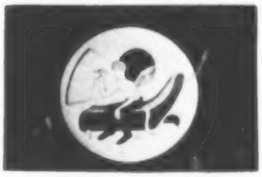
ANTICIPATED STUDENT BEHAVIORS

Students:

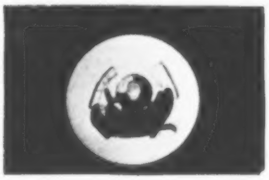
--question (student's name) about his reactions
while in the capsule.

MATERIALS

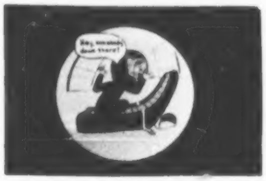
Slide 1-57



Slide 1-58



Slide 1-59


Hey, somebody down there!

TEACHING STRATEGIES

8. Things are needed for entertainment to fight boredom.
9. "Space walks" are necessary for waste removal.

Summarize this series of activities with your studen listing man's vital life needs on the chalkboard. U following cartoons to focus the students' attention each vital need.

Project Slide 1-57. Then ask:

> WHAT LIFE NECESSITY DID THIS ASTRONAUT FORGET?

Project Slide 1-58. Then ask:

> WHAT IS THE MATTER WITH THIS ASTRONAUT?
>
> ARE THE WALLS REALLY CLOSING IN ON THE ASTRONAU
>
> WHY?

Project Slide 1-59. Then ask:

> WHAT IS THIS ASTRONAUT TRYING TO DO?
>
> CAN HE DO IT?
>
> WHY WOULD HE WANT TO YELL BACK TO EARTH?

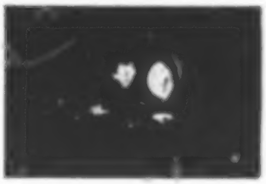
Project Slide 1-60. Then ask:

> WHY CAN'T THE ASTRONAUT FIND THE CONTROLS?

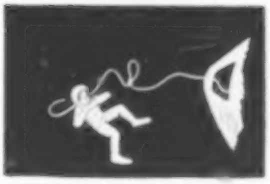
TEACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
needed for entertainment to fight	
ks" are necessary for waste removal.	
eries of activities with your students by tal life needs on the chalkboard. Use the ns to focus the students' attention on	
57. Then ask:	
ECESSITY DID THIS ASTRONAUT FORGET?	--respond, "Food," "Something to eat."
58. Then ask:	
MATTER WITH THIS ASTRONAUT?	--respond, "He's afraid," "He doesn't have enough room."
LS REALLY CLOSING IN ON THE ASTRONAUT?	--respond, "No, he just feels that they are."
	--respond, "Because it's really small."
59. Then ask:	
S ASTRONAUT TRYING TO DO?	--respond, "Yell back to Earth."
T?	--respond, "No, he's too far away."
E WANT TO YELL BACK TO EARTH?	--respond, "To tell them something," "To tell the control room something is wrong."
60. Then ask:	
HE ASTRONAUT FIND THE CONTROLS?	--respond, "The lights are out," "He can't see because it's dark."

MATERIALS

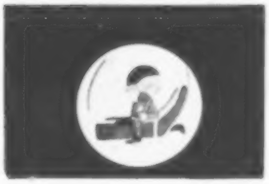
Slide 1-60



Slide 1-61



Slide 1-62



TEACHING STRATEGIES

Project Slide 1-61 and ask:

WHY DOES THIS ASTRONAUT LOOK SO FUNNY?

Project Slide 1-62 and ask:

WHO WILL WIN THE CHECKER GAME?

WHY?

WHY WOULD THE ASTRONAUT PLAY CHECKERS BY HIMSELF?

Project Slide 1-63 and ask:

WHAT IS THE MATTER WITH THIS ASTRONAUT?

Project Slide 1-64 and ask:

WHAT LIFE NEED HAS THIS ASTRONAUT RUN OUT OF?

Conclude activity by asking:

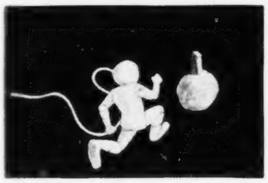
ARE THERE SOME THINGS THAT ALL LIVING THINGS NEED?

WHAT ARE THEY?

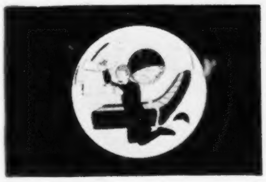
ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
-61 and ask:	
IS ASTRONAUT LOOK SO FUNNY?	--respond, "He can't breathe." "Can't get air."
-62 and ask:	
N THE CHECKER GAME?	--respond, "The astronaut."
	--respond, "Because he's playing by himself."
HE ASTRONAUT PLAY CHECKERS BY	--respond, "He's bored," "He's lonely and needs something to do," "There's no one else to play with."
-63 and ask:	
MATTER WITH THIS ASTRONAUT?	--respond, "He's got to go."
-64 and ask:	
EED HAS THIS ASTRONAUT RUN OUT OF?	--respond, "Water."
y by asking:	
OME THINGS THAT ALL LIVING THINGS	--conclude that there are life necessities common to all living things.
EY?	--identify life necessities common to all things such as, water, air, food, light, company, space, or room to live, etc.

MATERIALS

Slide 1-63



Slide 1-64



TEACHING STRATEGIES

Now write this list of things on the chalkboard:

- Airplane
- School
- House
- Food
- Car
- Water
- Pencil
- Dog
- Telephone
- TV
- Lamp
- Air
- People

Then ask:

> DO YOU NEED ALL OF THESE THINGS?
>
> COULD YOU LIVE WITHOUT SOME?
>
> LET'S PICK OUT THOSE THINGS THAT WE COULD NOT LIVE WITHOUT OR WHICH ONES DO WE ABSOLUTELY NEED?

Have students take turns explaining each item on the list as either absolutely essential or not absolutely essential.

**INVOL
SLOW
STUD**

Disagreements may arise here over what is essential. Students may not think water is essential, for example, because they forget that there is water in most things they eat.

ACHING STRATEGIES

t of things on the chalkboard:

LL OF THESE THINGS?

E WITHOUT SOME?

T THOSE THINGS THAT WE COULD NOT
OR WHICH ONES DO WE ABSOLUTELY

turns explaining each item on the list
ly essential or not absolutely essential.

INVOLVE YOUR SLOWEST STUDENTS

arise here over what is essential.
hink water is essential, for example,
t that there is water in most things

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "No."

--respond, "Yes."

--should identify food, water, and air as absolutely essential.

MATERIALS

TEACHING STRATEGIES

A

HEL
STUDENTS AS NEC

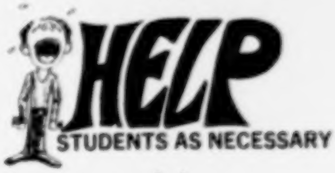
DON'T ASK LEADING QUESTIONS

Conclude the activity at this point by having students take turns naming something in their environment. Have the rest of the class discuss whether it is essential or nonessential to their survival. Make sure students do not get the impression that it is bad or wrong to have nonessential things. The purpose of this part of the activity is to stimulate thought about this idea.

DON'T ASK LEADING QUESTIONS

STRATEGIES

ANTICIPATED STUDENT BEHAVIORS


HELP
STUDENTS AS NECESSARY

DON'T ASK LEADING QUESTIONS

his point by having students
g in their environment. Have
uss whether it is essential
urvival. Make sure students
that it is bad or wrong to have
purpose of this part of the
hought about this idea.

DON'T ASK LEADING QUESTIONS

ACTIVITY 1-27: "To The Moon In Our Room"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ____

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet #	 #	 #	Game #	Slides (show slide nos.)	Transparency #	 #	 #	Card(s) #	Tape(s) #	Other #
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

BSCS Evaluation: EMH Feedback Form 1c

	#	#	#	#	slide nos.)	#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. What kind of capsule(s) did students choose to make?
☐ Space ☐ Sea ☐ Cave ☐ Poles ☐ Mountain: Comment.

18. What modifications and additions were made to the capsule after the first flight?

19. Who went on the flights?

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

UNIT I, CORE C

ACTIVITY 1-27: "To The Moon In Our Room"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently
or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or
applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

3. Create a greater interest in, and a more sensitive attitude toward, his environment.
4. Understand that his environment includes the whole Earth.

CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
4. Associate the Earth with a finite spaceship.

MATERIALS

TEACHING STRATEGIES

Activity 1-28. Far Out Habitats

After forming some perspective and awareness of the planet Earth from close up, the student will now view it from outer space and briefly compare the Earth's environment with the Moon's environment. The last slide will provide a transition to the next core, Microbes And Me.

IS ACTIVITY

greater interest in, and a more
e attitude toward, his environment.

nd that his environment includes
e Earth.

:

ware that there are certain
ental landmarks and that these
e to orient him to his environment.

a variety of habitats.

e the Earth with a finite spaceship.

ING STRATEGIES

t Habitats

spective and awareness of the
e up, the student will now view
d briefly compare the Earth's
oon's environment. The last
ransition to the next core,

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-28. FAR OUT HABITATS

BSCS

ANTICIPATED STUDENT BEHAVIORS

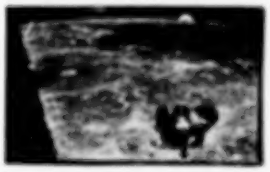
At the end of this activity, each student should:

- *--have viewed the sequence of slides showing various scenes from a Moon journey.*
- *--have compared the Earth's environment with that of the Moon and inferred that the Moon does not provide the basic life needs.*

MATERIALS

Slides 1-65 through 1-73
*35mm Slide projector

Slide 1-65



Slide 1-66

*Not furnished in materials kit

TEACHING STRATEGIES

Teacher Preparation:

Set up the projector and screen. Have the set of slides ready for use before class begins. Preview the slides prior to class.

Begin by saying:

> LET'S PRETEND WE'RE ALL IN OUR SPACESHIP AND WE HAVE JUST BLASTED OFF TOWARD THE MOON.

Project Slide 1-65 and ask:

> WHERE ARE YOU NOW?

Project Slide 1-66 and ask:

> WHERE ARE YOU NOW?

Project Slide 1-67 and ask:

> NOW WHERE ARE YOU?
>
> DO YOU LIKE BEING ON THE MOON? WHY OR WHY NOT?
>
> DESCRIBE THE HABITAT YOU SEE ON THE MOON.
>
> HOW IS IT DIFFERENT FROM YOUR HABITAT?

If the students do not recognize the spaceship as a habitat, ask:

ACHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
:	
r and screen. Have the set of slides : class begins. Preview the slides	
E'RE ALL IN OUR SPACESHIP AND LASTED OFF TOWARD THE MOON.	
and ask:	
OW?	--view the slide and respond, "On our way to outer space in our spaceship," "On our way to the Moon."
and ask:	
OW?	--respond, "We've just landed on the Moon." "On the Moon."
and ask:	
OU?	--respond, "Still on the Moon."
ING ON THE MOON? WHY OR WHY	--give varied responses, "Yes," "No," "It's scary," "It's pretty," "Too rocky."
BITAT YOU SEE ON THE MOON.	--study and describe the Moonscape.
ERENT FROM YOUR HABITAT?	--compare slide to Earth and relate differences.
ot recognize the spaceship as a habi-	

MATERIALS

TEACHING STRATEGIES

WHAT WAS THE ASTRONAUTS' HABITAT WHILE THEY WERE GOING TO THE MOON?

Continue by saying:

Slide 1-67

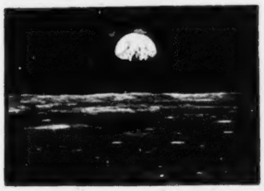
WHY DO WE NEED THE SPACESHIP? COULDN'T WE JUST LIVE ON THE MOON?

IS THE MOON A HABITAT FOR ANY LIVING THINGS?

IN WHAT WAYS ARE THE MOON AND EARTH ALIKE?

HOW ARE THEY DIFFERENT?

Slide 1-68



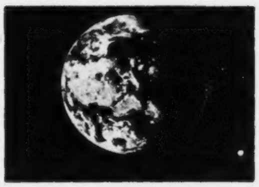
Project Slide 1-68 and ask:

WHAT DO YOU SEE?

HOW DOES THIS COMPARE TO THE WAY THE MOON LOOKS WHEN WE'RE STANDING ON EARTH?

Project Slide 1-69 and ask:

Slide 1-69



WHERE ARE YOU NOW?

WHAT DO YOU SEE?

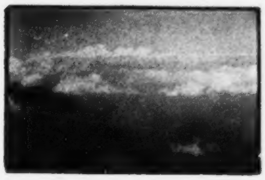
HOW DOES THE DISTANCE FROM THE EARTH IN THIS SLIDE COMPARE WITH THE DISTANCE FROM EARTH IN THE LAST SLIDE?

HOW CAN YOU TELL?

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
RONAUTS' HABITAT WHILE THEY MOON?	--respond, "Their spaceship."
E SPACESHIP? COULDN'T WE MOON?	--respond, "The ship has everything we need in it," "The ship has our food," "The ship has air," "The Moon doesn't have any air," etc.
ITAT FOR ANY LIVING THINGS?	--respond, "No."
THE MOON AND EARTH ALIKE?	--respond, "Both have rocks, mountains, etc."
ERENT?	--respond, "The Moon doesn't have any water and it's dark."
ask:	
	--respond, "The Earth," "Part of the Moon."
PARE TO THE WAY THE MOON STANDING ON EARTH?	--respond, "The Earth's far away," "We're standing on the Moon," "It's a different color," "You can see the stuff on the Moon."
ask:	
?	--respond, "Heading toward Earth," "In space again."
	--respond, "Picture of Earth from outer space."
ANCE FROM THE EARTH IN THIS H THE DISTANCE FROM EARTH ?	--infer that the distance from the Earth is less in this slide.
	--respond, "We're closer to the Earth," "It looks bigger."

ACTIVITY 1-28

㉑

MATERIALS	TEACHING STRATEGIES
	WHAT COLORS DO YOU SEE IN THE PICTURE OF THE EARTH?
	WHAT DO YOU SUPPOSE MAKES THE EARTH LOOK LIKE THAT?
	WHAT COLORS DID YOU SEE ON THE MOON?
	WHY ISN'T THE MOON AS COLORFUL AS THE EARTH?
Slide 1-70 	Project Slide 1-70 and ask: WHERE ARE WE NOW? WHAT DO YOU SEE? HOW DOES THE DISTANCE WE ARE FROM THE EARTH NOW COMPARE WITH THE LAST PICTURE? HOW CAN YOU TELL WE'RE CLOSER? WHAT DO YOU THINK THE NEXT PICTURE WILL SHOW?
Slide 1-71 	Project Slide 1-71 and ask: WHERE ARE YOU NOW? WHY DO YOU THINK OUR SPACESHIP IS OVER THE OCEAN? WHY DO ASTRONAUTS LAND ON THE OCEAN?

HING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
OU SEE IN THE PICTURE OF THE	--respond, "Blue," "White," "Brownish red."
POSE MAKES THE EARTH LOOK LIKE	--infer, "Clouds," "Ocean," "Land," etc.
YOU SEE ON THE MOON?	--respond, "Gray," "Brown," "Black."
OON AS COLORFUL AS THE EARTH?	--infer that because the Moon doesn't have clouds and water it isn't as colorful.
nd ask:	
W?	--respond, "Still moving toward Earth."
?	--respond, "Blue sky," "Water," "Clouds."
STANCE WE ARE FROM THE EARTH THE LAST PICTURE?	--infer that the distance from the Moon is greater in this picture. We are getting closer to Earth.
WE'RE CLOSER?	--respond, "Everything's bigger."
NK THE NEXT PICTURE WILL SHOW?	--predict that it will be even closer to Earth.
nd ask:	
OW?	--respond, "Over the water," "Over the ocean."
K OUR SPACESHIP IS OVER THE	--recall former experiences of viewing space flights and reply, "Because we land there."
TS LAND ON THE OCEAN?	--respond, "Otherwise they'd crash," "It's softer than the land."

MATERIALS

Slide 1-72

TEACHING STRATEGIES

Project Slide 1-72 and ask:

WHAT'S HAPPENED TO US NOW?

WHEN THE HELICOPTER COMES TO PICK US UP WILL WE HAVE TO TAKE OUR OXYGEN SUPPLY WITH US AND WEAR OUR SPACE SUIT LIKE WE HAD TO ON THE MOON? WHY NOT?

HOW DOES THE ENVIRONMENT ON THE MOON COMPARE TO THE ENVIRONMENT ON THE EARTH?

WE'RE BACK TO OUR NORMAL HABITAT NOW -- EARTH. WHAT TOOK THE PLACE OF OUR EARTH HABITAT WHEN WE WERE ON THE MOON?

HOW COULD THE SPACESHIP TAKE THE PLACE OF THE EARTH?

DOES EVERYONE ON EARTH HAVE EVERYTHING THEY NEED TO KEEP ALIVE?

Discuss places with shortages, such as not enough food in some countries; running out of water or having it contaminated in a flood, etc; pollution in cities affecting the air; disasters destroying shelters. Use current events when possible.

STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
NOW?	--respond, "We have landed."
MES TO PICK US UP WILL YGEN SUPPLY WITH US AND KE WE HAD TO ON THE MOON?	--respond, "No," "Of course not," and give reasons such as, "Because the Earth has air already," "Because we live here."
NT ON THE MOON COMPARE THE EARTH?	--infer that the Moon does not provide basic life needs because the astronaut must have a special space suit and live in his spaceship in order to survive.
AL HABITAT NOW -- EARTH. OUR EARTH HABITAT WHEN	--respond, "The spaceship."
P TAKE THE PLACE OF THE	--respond, "Because it had everything we needed to keep alive."
HAVE EVERYTHING THEY	--various responses but will probably respond, "No."
es, such as not enough food in of water or having it con- pollution in cities affecting ng shelters. Use current	

ACTIVITY 1-28

(216)

MATERIALS

Slide 1-73

TEACHING STRATEGIES

Ask:

COULD THE EARTH RUN OUT OF THE THINGS WE NEED FOR LIFE?

Say:

SOMEDAY THERE MIGHT NOT BE ENOUGH TO GO AROUND UNLESS WE RECYCLE SOME THINGS AND KNOW TO PLAN AHEAD. THAT IS WHY WE ARE STUDYING *ME AND MY ENVIRONMENT*.

Project Slide 1-73 and say:

WHAT IS THIS A PICTURE OF?

WE HAVE EXPLORED OUR HABITAT, THE EARTH, AND WE HAVE GONE TO THE MOON TO EXPLORE THAT ENVIRONMENT AND TO SEE IF IT IS A HABITAT FOR ANYTHING. NOW WE HAVE SPLASHED DOWN IN THE WATER.

THE WATER YOU SEE IS ON THE WINDOW OF THE SPACECRAFT. DOES ANY LIVING THING LIVE IN THIS DROP OF WATER? CAN A DROP OF WATER BE A HABITAT?

DO NOT provide answers to this question at this time. This question is meant merely to stimulate thought and discussion as preparation for the activities of the next core.

ACC
ANS

ING STRATEGIES

N OUT OF THE THINGS WE NEED

T NOT BE ENOUGH TO GO AROUND
SOME THINGS AND KNOW TO PLAN
Y WE ARE STUDYING *ME AND MY*

say:

TURE OF?

UR HABITAT, THE EARTH, AND
E MOON TO EXPLORE THAT
SEE IF IT IS A HABITAT
WE HAVE SPLASHED DOWN IN

IS ON THE WINDOW OF THE
ANY LIVING THING LIVE IN
? CAN A DROP OF WATER

to this question at this time. This
y to stimulate thought and discus-
the activities of the next core.

ACCEPT ALL ANSWERS

ANTICIPATED STUDENT BEHAVIORS

Students:

--respond, "Yes."

--respond, "A drop of water."

--respond with a variety of opinions and answers.

Me and my Environment

OBJECTIVE FOCUS FOR THIS ACTIVITY

UNIT GOALS:

1. Explore his immediate environment through a variety of sensory experiences and physical contacts.
2. Recognize the environmental components essential for all living things.
3. Create a greater interest in, and a more sensitive attitude toward, his environment.

CORE C OBJECTIVES:

1. Become aware that there are certain environmental landmarks and that these may serve to orient him to his environment.
2. Examine a variety of habitats.
3. Appreciate the aesthetic and functional qualities of various habitats.
4. Associate the Earth with a finite spaceship.

MATERIALS

TEACHING STRATEGIES

Activity 1-29. Review Of Success

The purpose of this activity is to make the student aware of what he has learned in this core. The worksheets provide opportunities for you to praise his success or provide encouragement and further help.

UNI

COI

ACT

At

--

--

HIS ACTIVITY

his immediate environment through
ty of sensory experiences and
l contacts.

ze the environmental components
al for all living things.

a greater interest in, and a more
ve attitude toward, his environment.

S:

aware that there are certain
nmental landmarks and that these
ve to orient him to his environment.

a variety of habitats.

iate the aesthetic and functional
ies of various habitats.

ite the Earth with a finite spaceship.

CHING STRATEGIES

ew Of Success

ctivity is to make the student aware
ed in this core. The worksheets
for you to praise his success or
t and further help.

UNIT I. EXPLORING MY ENVIRONMENT

CORE C. LANDMARKS IN MY ENVIRONMENT

ACTIVITY 1-29. REVIEW OF SUCCESS

BSCS

ANTICIPATED STUDENT BEHAVIORS

At the end of this activity, each student should:

--have completed Worksheets 1-12 and 1-13.
--have discussed and defended his answers to the seven items.

ACTIVITY 1-29

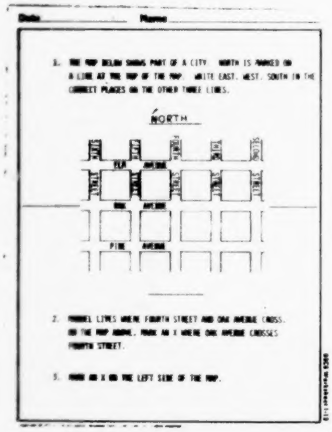
(218)

MATERIALS

Worksheet 1-12
Worksheet 1-13
Slides 1-74 through 1-78
*35mm Slide projector

Worksheet 1-12

Slide 1-74



Date ____ Name ____

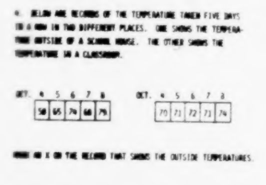
1. THE MAP BELOW SHOWS PART OF A CITY. NORTH IS MARKED ON A LINE AT THE TOP OF THE MAP. WRITE EAST, WEST, SOUTH IN THE CORRECT PLACES ON THE OTHER THREE LINES.

NORTH
ELM AVENUE
OAK AVENUE
PINE AVENUE
FOURTH
SECOND
STREET

2. [illegible] LIVES WHERE FOURTH STREET AND OAK AVENUE CROSS. ON THE MAP ABOVE, MARK AN X WHERE OAK AVENUE CROSSES FOURTH STREET.

3. MARK AN X ON THE LEFT SIDE OF THE MAP.

Slide 1-75



4. BELOW ARE RECORDS OF THE TEMPERATURE TAKEN FIVE DAYS IN A ROW IN TWO DIFFERENT PLACES. ONE SHOWS THE TEMPERATURE OUTSIDE OF A SCHOOL HOUSE. THE OTHER SHOWS THE TEMPERATURE IN A CLASSROOM.

OCT.	4	5	6	7	8
	50	65	70	60	75

OCT.	4	5	6	7	8
	70	71	72	71	74

MARK AN X ON THE RECORD THAT SHOWS THE OUTSIDE TEMPERATURES.

*Not furnished in materials kit

TEACHING STRATEGIES

Begin this activity by saying:

> TODAY LET'S THINK ABOUT SOME OF THE THINGS WE HAVE LEARNED THE LAST SEVERAL WEEKS. I WILL HAND OUT A WORKSHEET TO YOU. AS I READ EACH QUESTION ON IT, MARK WHAT YOU THINK IS THE BEST ANSWER ON YOUR WORKSHEET. WE WILL WAIT TO TALK ABOUT YOUR ANSWERS UNTIL AFTER WE HAVE COMPLETED THE WORKSHEET. ARE THERE ANY QUESTIONS?

Distribute Worksheet 1-12 containing five questions, and have students put their names and the date on it.

Project Slide 1-74. Read question number 1 aloud to the students. Make sure students are looking at and marking the question that is being read. Read the item a second time, allowing ample time for them to write in the three directions on their worksheets. Repeat this procedure for questions 2 and 3 that are also on this slide. Continue this procedure for question 4 (Slide 1-75) and question 5 (Slide 1-76) on the back of this worksheet.

After all students have answered the questions on Worksheet 1-12, collect their worksheets. Then project each slide (1-74, 1-75, and 1-76) again and discuss the answers with them. Involve many students and accept all answers that they can justify. Let them know how successful they are.

GIVE
STUDEN
TO

CHING STRATEGIES

by saying:

NK ABOUT SOME OF THE THINGS WE
E LAST SEVERAL WEEKS. I WILL
SHEET TO YOU. AS I READ EACH
MARK WHAT YOU THINK IS THE
YOUR WORKSHEET. WE WILL WAIT
OUR ANSWERS UNTIL AFTER WE HAVE
ORKSHEET. ARE THERE ANY QUESTIONS?

1-12 containing five questions, and
eir names and the date on it.

Read question number 1 aloud to the
students are looking at and marking
being read. Read the item a second
time for them to write in the three
worksheets. Repeat this procedure
3 that are also on this slide. Con-
for question 4 (Slide 1-75) and
76) on the back of this worksheet.

ave answered the questions on Work-
their worksheets. Then project each
nd 1-76) again and discuss the
Involve many students and accept all
n justify. Let them know how success-

GIVE SEVERAL STUDENTS A CHANCE TO RESPOND

ANTICIPATED STUDENT BEHAVIORS

ACTIVITY 1-28: "A Different Environment"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
    ☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

BSCS Evaluation: EMH Feedback Form 1c

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. What similarities in the earth and the moon did your students mention?

18. What differences between the earth and moon were pointed out by your students?

19. How many of your students understood the idea that the earth could run out of things needed for life?
☐ None ☐ Some ☐ Most: Comment.

20. Concern (or questions) about content:

21. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

ACTIVITY 1-28: "A Different Environment"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

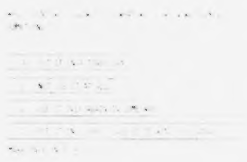
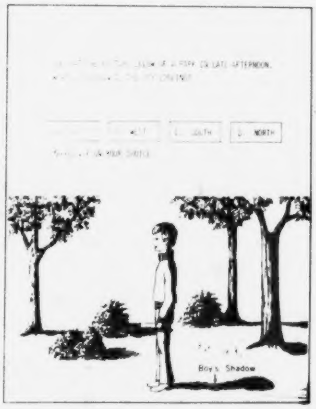
THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

MATERIALS	TEACHING STRATEGIES
Slide 1-76  Worksheet 1-13 Slide 1-77 Slide 1-78  	After discussion of the questions on Worksheet 1-12, pass out Worksheet 1-13 and repeat this procedure for questions 6 and 7 (Slides 1-77 and 1-78). Again collect completed worksheets, project slides again, and discuss the answers. Question 7 may prove difficult for students. Ask students to identify the various clues that indicate that the boy is facing towards the west. You may have to give hints such as: WHAT TIME OF DAY IS IT? WHERE ARE THE SHADOWS? WHERE IS YOUR SHADOW WHEN YOU FACE TOWARDS THE SUN? IN WHAT DIRECTION IS THE SUN IN THE AFTERNOON? HOW DO YOU KNOW THEN THAT THE BOY IN THE QUESTION IS FACING WEST? Later you will record student answers to Worksheets 1-12 and 1-13 on Tallysheet 1-5 and consider whether the whole class needs further review or if a few individuals need special attention.

CHING STRATEGIES	ANTICIPATED STUDENT BEHAVIORS
	Students:
the questions on Worksheet 1-12, pass nd repeat this procedure for questions and 1-78). Again collect completed slides again, and discuss the answers. difficult for students. Ask students ous clues that indicate that the boy e west. You may have to give hints	
Y IS IT?	--recall from the question that it is afternoon.
HADOWS?	--study the picture and point them out or indicate, "To the boy's back."
HADOW WHEN YOU FACE TOWARDS	--indicate, "Behind you."
ON IS THE SUN IN THE AFTERNOON?	--respond, "West."
THEN THAT THE BOY IN THE ING WEST?	--respond, "It is afternoon and his shadow is behind him."
d student answers to Worksheets 1-12 et 1-5 and consider whether the whole review or if a few individuals need	

Teacher ______________________
Date ______________________

UNIT I, CORE C
TALLYSHEET 1-6: Tally of Worksheet 1-12 and 1-13
ACTIVITY 1-29: "Review Of Success"

1 (Map Directions). Make a check mark in each column that is correctly labeled on the map. Most should answer south correctly. Note how many reverse east and west. This may be associated with not knowing left and right. Provide practice for those who need it in a gamelike atmosphere.

2 (Locate Corner). Circle yes if the student marked the correct intersection or any corner at that intersection.

3 (Knows Left). Circle yes if the student marked an X on the left side of the map.

4 (Temp. Outside). Circle the letter each student marked. The correct answer is A, the record of outside temperature. If students have difficulty with this item, discuss the records of temperature the class kept and compare it to the examples in this item.

5 (Recycle). Circle the letter each student marked. The correct answer is C (use it again in some way).

6 (Life Needs). See back of sheet.

		1 (Map Directions)	2 (Locate Corner)	3 (Knows Left)	4 (Temp. Outside)	5 (Recycle)
	KEY:	west south east	yes no	yes no	[✓ A] B	A B [✓ C] D
Attach ID list here.	01	west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D
		west south east	yes no	yes no	A B	A B C D

west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D
west south east	yes no	yes no	A B	A B C D

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No
If not, what other evidence do you have of student learning?

TALLYSHEET 1-6: Tally of Worksheet 1-12 and 1-13

6 (Life Needs). Check all of the words listed below that each student marked. All students should mark AIR, FOOD, and WATER. These are survival needs. It is acceptable to mark FRIENDS and SHELTER as these can contribute directly to psychological or physical survival. Discuss the others as nonessentials for life and accept arguments that it would be difficult to live in many places without them. Some may recognize our heavy dependence on the soil and transportation for food.

7 (Directions in Picture). Circle the letter each student marked. The correct answer is B (west). This item involves a number of understandings:

- a. The sun goes down in the west.
- b. Shadows are cast in the opposite direction to the light source
- c. Ability to orient oneself to directions from visual (sun, shadows) and verbal (late afternoon) cues.
- d. Awareness of compass directions.
- e. Possible association of left/right with compass directions.

If students encounter difficulty, use a real scene and then the picture to practice orientation.

	6 (Life Needs)					7 (Directions in Picture)			
KEY:	air	food	water	friends	shelter	A	[✓ B]	C	D
01	air	food	water	friends	shelter	A	B	C	D
Attach ID list here.	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D
	air	food	water	friends	shelter	A	B	C	D

air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D
air	food	water	friends	shelter	A	B	C	D

Does this review give an accurate indication of student understanding? ☐ Yes ☐ No
If not, what other evidence do you have of student learning?

ACTIVITY 1-29: "Review Of Success"

Teacher

Activity name suggested by class:

BSCS USE: Post ____ Tally ____ Rev ___

		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1.	Date taught (month and date, e.g. 11/2)						
2.	Minutes of class time on science each day						
3.	Minutes of preparation each day						
4.	Students absent on each date (Use ID Number)						

5. Interest of class as expressed by apparent attention to what is happening.

Number of students responding with: Name students you noted especially:

	(Number)	
HIGH INTEREST		→ ________ ________ ________ ________
MODERATE INTEREST		
INDIFFERENCE		
MODERATE RESISTANCE		
STRONG DISLIKE		→ ________ ________ ________ ________
HARD TO RATE		

6. Equipment in kit: ☐ None needed ☐ Satisfactory ☐ Too fragile ☐ Too complicated ☐ Difficult to use

7. Equipment I got: ☐ None needed ☐ Easy to get ☐ Hard to get, but okay ☐ Hard to get, add to kit ☐ Unobtainable, add to kit

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:
☐ Worthwhile --keep as is ☐ Of value--needs the revision suggested ☐ Worth salvaging--make major changes described ☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

BSCS Evaluation: EMH Feedback Form 1c

8. Materials used:

	Worksheet			Game	Slides (show slide nos.)	Transparency			Card(s)	Tape(s)	Other
	#	#	#	#		#	#	#	#	#	#
Worthwhile as is											
Revise slightly											
Revise much											
Worthless: omit											

9. Maturity level is ☐ just right ☐ too childish ☐ too mature Explain:

10. Vocabulary level is ☐ just right ☐ too easy ☐ too difficult Explain:

11. Were teacher instructions clear enough to follow? ☐ Yes ☐ No -Pages and Problem:

12. Were clues to success and reviews of success helpful? ☐ Yes ☐ No -Why not?

13. Did the activity fulfill the purpose stated by the Guide? ☐ Yes ☐ No - Comment:

14. Were any parts of this activity omitted? ☐ No ☐ Yes - Explain:

15. Your rating of this activity:

☐ Worthwhile --keep as is	☐ Of value--needs the revision suggested	☐ Worth salvaging--make major changes described	☐ Worthless --drop it

SPECIFIC CONCERNS ABOUT THIS ACTIVITY:

16. There are always parts of activities that are good and need not be changed.
What parts of this activity should be retained when the curriculum is revised?
Page(s) ____________________:

17. Did any student give away any answer on Worksheet 1-12 or 1-13?
☐ No ☐ Yes: Comment.

18. Please complete Tallysheet 1-6 and send it in with this feedback sheet.

19. Concern (or questions) about content:

20. Messages for staff (read immediately):

Have you answered each question, attached annotated Guide, your revisions, student work, etc.?

SIDE A

ACTIVITY 1-29: "Review Of Success"

Teacher ________________

REPORT OF WHAT HAPPENED AND SUGGESTIONS FOR REVISION

1. Whenever practical write all over your second copy of the Guide. Tear out the activity and send the annotated Guide in with this form.
2. Make specific suggestions - exactly what you think should appear in the Guide.
3. Tell us what you did. Think of what you needed, what you had to work out for yourself, how you presented something to make it go over.
4. Describe the revisions you said were needed in answering the questions on the other side of this form.
5. As a reminder of things that help in revision, read through the following list and check off things you want to be sure to note this time. (We know you can't tell about everything every time!)

THE LESSON

☐ how you organized materials or class.
☐ things added (a question, a picture, etc.).
☐ equipment, supplies, visual aids.
☐ things that went wrong, misunderstandings.
☐ what you would do differently or avoid next time.

THE STUDENTS

☐ who had problems and what they were.
☐ how someone "caught on" (or who never did).
☐ who was really "turned off" (or on).
☐ reactions of parents, teachers, students.
☐ special evidence of learning or applying ideas.

☐ turmoil in the class caused by the activity, or disruptive students, or interruptions, and how you dealt with them.

UNIT 1

REACTIONS TO CORE C

1. Was the background information for this core adequate? ☐ Yes ☐ No
   Comment:

2. Was it clear to you why these particular activities were chosen and the direction they were leading? ☐ Yes ☐ No
   Comment:

3. Did the activities fulfill the purposes stated in the Guide for this core? ☐ Yes ☐ No
   Comment:

4. How would you increase the clarity of this core for students? (Help them understand why they are doing these activities.)

5. Is there a practical (take-home) value for your students in these activities? ☐ Yes ☐ No
6. If yes, what do you see as the "take-home" lesson? If no, what is needed?

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No
   Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No
   Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No
    Comment:

7. In these materials, what things did your students find difficult to do?

8. Should there be more clues to success or reviews of success in this core? ☐ Yes ☐ No
Comment:

9. Was there too much reading and too many teacher directions? ☐ Yes ☐ No
Comment:

10. Did you make use of the Planning Guide? ☐ Yes ☐ No
Comment:

11. If you could teach your way, rather than following the Guide, how would you do it?

12. Which of your students do you believe were unsuccessful in achieving the objectives of this core of activities? Explain.

SIDE A

NEW STUDENTS ENTERING DURING THIS CORE

Date Entered	Last Name Name Used	Ethnic Group	Sex	Birthdate	Test date	Test	Total
		W B S O	M F			W B O	
		W B S O	M F			W B O	
		W B S O	M F			W B O	
		W B S O	M F			W B O	

W = white
B = black
S = Spanish-American
O = other

W = WISC
B = Binet
O = other (name)

STUDENTS DROPPED IN THIS PERIOD

Date Dropped	Last Name First

ADDITIONAL INFORMATION ON NEW STUDENTS:

UDENTS ENTERING DURING THIS CORE

Birthdate	Test date	Test	Total	Verbal	Performance	Previous Test Score
		W B O				
		W B O				
		W B O				
		W B O				

W = WISC
B = Binet
O = other
(name)

SIDE B